Cardiovascular Disease Mortality and Risk Factors

by Nebraska's Local Public Health Department Regions

February 2005

NEBRASKA HEALTH AND HUMAN SERVICES SYSTEM

DEPARTMENT OF SERVICES • DEPARTMENT OF REGULATION AND LICENSURE • DEPARTMENT OF FINANCE AND SUPPORT

Nebraska Cardiovascular Health Program

Disease Prevention and Control

Cardiovascular Disease Mortality and Risk Factors by Nebraska's Local Public Health Department Regions

Nebraska Health and Human Services System

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Dear Nebraskans,

This report, entitled "*Cardiovascular Disease Mortality and Risk Factors by Nebraska's Local Public Health Department Regions,*" is a specific effort to analyze and report cardiovascular disease (CVD) information to local public health departments (LPHDs) in Nebraska. Although a great deal is known about CVD and its associated risk factors within Nebraska, including many subpopulations, little information about CVD has been communicated about the differences between LPHDs within Nebraska.

Consisting of heart disease and stroke, CVD claims thousands of lives each year, is a leading cause of disability, and results in enormous medical expense. Many of the CVD deaths in Nebraska could be prevented through increased awareness and healthier lifestyles.

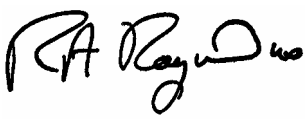
Significantly, this report is the result of successful collaborative efforts between the Nebraska CVH program and officials associated with the LPHDs. It is hoped that it will lead to the increased ability of local public health efforts to improve the cardiovascular health of their residents, which in turn will result in statewide level improvements.

The lack of adequate physical activity and unhealthy eating habits are the two primary reasons causing these unhealthy trends among Nebraskans, resulting in epidemic increases in overweight and obesity. Other preventable risk factors for CVD covered in the report include having Type-2 diabetes, high blood cholesterol, high blood pressure and smoking.

While it is critically important to focus on preventing cardiovascular disease, many people in Nebraska are already at high-risk for or have cardiovascular disease. Consequently, it is important that our residents have health care systems in place to promptly and effectively treat their cardiovascular conditions.

The Nebraska CVH Program will use these data to encourage increased collaborative interactions with local LPHDs designed to improve the cardiovascular health of local residents, thereby improving the cardiovascular health of all Nebraskans.

Yours very truly,



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Executive Summary

Cardiovascular disease (CVD), consisting of heart disease and stroke, is a serious and costly disease in Nebraska. CVD claims thousands of lives each year (many of those among residents under 65 years of age), is a leading cause of disability, and results in enormous medical expenses. Many CVD risk factors are modifiable through simple lifestyle choices, yet many people in Nebraska fail to engage in healthy behaviors that could lower their risk for developing CVD. While CVD mortality and risk factor information is currently available for many subpopulations in Nebraska, little information has been analyzed and reported for many of the newly formed local public health departments (established through LB692 funds). To better understand CVD mortality and risk factors in Nebraska within local public health department regions, the Nebraska Cardiovascular Health Program has compiled the most current information available for CVD mortality (years 1999-2003) and preventable CVD risk factors (years 1995-2003) that provides an adequate number of cases for the analysis. Below is a brief summary of the key findings from this report.

Mortality

- Compared to the other states, statewide mortality rates from total CVD and its sub-components heart disease, sudden cardiac death, and stroke, fall slightly to the lower half. In 2001, Nebraska residents ranked between 14th lowest in stroke mortality and 28th lowest in total CVD mortality. Furthermore, in comparison to surrounding states, Colorado consistently had lower mortality rates while Missouri consistently had higher mortality rates than Nebraska for heart disease, sudden cardiac death, and total CVD.

- Consistent across all of Nebraska's local public health departments between 1999-2003, males were more likely than females to die from heart disease, sudden cardiac death, and total CVD. Stroke-related mortality across the state's local public health departments was equally common for males and females.

- The Three Rivers Public Health Department was found to have statistically lower mortality rates, when compared to the rest of the state, for heart disease, sudden cardiac death, and total CVD, while the Elkhorn Logan Valley Public Health Department was found to have consistently higher mortality rates for the same three causes of death.

Preventable CVD Risk Factors

- Out of the 54 U.S. states and territories, Nebraska adults tend to rank better than the median for all but two of the nine preventable CVD risk factors. The two preventable risk factors that Nebraska ranks poorly in are obesity and fruit/vegetable consumption. In 2003, Nebraska ranked 37th worst in obesity, and 50th worst in the percentage of respondents that consumed the USDA recommendation of at least five servings of fruits and vegetables daily.

- Of Nebraska's 18 local public health departments, residents of the Four Corners, Lincoln-Lancaster County, and the Sarpy-Cass Department of Health and Wellness (compared to the rest of the state) tended to report lower prevalence across many of the preventable risk factors for CVD presented in this report. Several local public health departments have statistically higher percentages for specific risk factors, suggesting

local programs might wish to tailor their public health programs, depending on the specific risks of their residents.

- Statewide, males are more likely than females to be obese, smoke cigarettes, and have diagnosed high blood cholesterol, while they are less likely to consume five or more servings of fruits and vegetables daily, have a health coverage plan, and have had a current cholesterol screening. These patterns are consistent for many of the individual local public health departments.

Unfortunately, a complete synopsis of mortality attributed to CVD and patterns of preventable CVD risk factors for individual local public health departments is not possible to convey in an executive summary for a statewide report. The most useful component of this report, especially for health professionals working in local communities, are the summary sheets attached as an appendix in this report. By compiling the information such that each local public health department has its own synopsis of the nine preventable risk factors and four types of CVD mortality, relative to statewide performance, health professionals will have at their disposal a summary of information that will be helpful in formulating localized cardiovascular health outreach programs.

Introduction

Background on Cardiovascular Disease in Nebraska

Cardiovascular disease includes all diseases of the heart and blood vessels, including coronary heart disease, stroke, congestive heart failure, hypertensive disease, and atherosclerosis. CVD is also commonly referred to as "diseases of the circulatory system." Cardiovascular disease is a chronic disease, with a latency period that often extends over decades.

Within Nebraska, CVD is a serious and costly disease. Although it is largely preventable and controllable, CVD claims thousands of lives each year (many of those among residents under 65 years of age), is a leading cause of disability, and results in enormous medical expenses.

Cardiovascular disease is the leading cause of death in Nebraska among both genders and all racial and ethnic groups (except Asians). CVD is also the leading cause of hospitalization in Nebraska, and costs for cardiovascular care in the state appear to be increasing.

There is a variety of risk factors that contribute to CVD morbidity and mortality. Through extensive research, many of the risk factors for CVD are well documented and understood. Each risk factor may be categorized as preventable (those over which the individual has control) or non-preventable (those over which the individual has no control). Fortunately, research has shown that most risk factors are modifiable through simple lifestyle choices. While extensive efforts have been made in recent decades to improve risk factor prevalence, most have not been successful, highlighted by obesity which has doubled among Nebraska adults since 1990. Lack of successful behavioral modification may be attributed in part to societal barriers discouraging healthy behavior.

Risk Factors for CVD

Preventable Risk Factors
- Type-2 Diabetes
- High Blood Cholesterol
- High Blood Pressure
- Lack of Physical Activity
- Overweight and Obesity
- Unhealthy Eating
- Smoking

Non-Preventable Risk Factors
- Increasing Age
- Male Gender
- Race/Ethnicity
- Family History of Premature CVD

Local and District Health Departments in Nebraska

LB 692, passed during the 2001 Nebraska legislative session, provides funding to qualifying local public health departments. As a result of this legislation, Nebraska now has a network of health departments that cover each of the 93 counties in Nebraska; a dramatic increase from the 22 counties covered before the LB 692 funding. Nebraska now has 25 local public health departments, 18 of which receive LB 692 funding (**Appendix B**).

All of the local public health departments in Nebraska currently have, at a minimum, a health director and a board of health. However, many of these health departments are in the capacity-building phase without the epidemiological support (from the local level) to effectively plan and evaluate public health programs. As a result, it is important that the Nebraska Health and Human Services System provide ongoing data reporting and epidemiological support to the local public health departments in Nebraska.

Purposes for this Report

While a great deal of information about CVD and its associated risk factors has been reported for the entire state of Nebraska, little CVD related information has been analyzed and reported for many of the newly formed local public health departments in Nebraska (established through LB692 funds). Having these data available will be beneficial to both local and state efforts to improve cardiovascular health in Nebraska.

With this in mind, the Nebraska Cardiovascular Health Program has compiled the most current information available concerning CVD-related mortality and preventable risk factors. The four causes of death presented in this report include total CVD and its sub-components of heart disease, sudden cardiac death, and stroke. The preventable risk factors presented in this report include obesity, fruit and vegetable consumption, physical inactivity, high blood pressure, high blood cholesterol, diagnosed diabetes, cigarette smoking, and lack of health care coverage.

Results in this report are presented for Nebraska as a whole, as well as for each of the18 local and district health departments. While there are more than 18 local public health departments in Nebraska, limitations resulting from a small number of cases did not permit more detailed analyses. The 18 local public health departments presented include the LB 692 funded departments with Scotts Bluff County included with the Panhandle Public Health Department and Dakota County included with the Northeast Nebraska Public Health Department.

This report is intended to be useful for individuals at both the statewide and local levels. Public health professionals, key stakeholders, and decision makers can use the information in this report to address cardiovascular health concerns for their residents in the following ways:

1. Increase awareness of the problem of CVD among key decision makers at the statewide and local levels.
2. Provide information to improve evidence-based decision making for cardiovascular disease prevention and control.
3. Provide baseline measures for health-related objectives.
4. Assist with the development of an action plan to address CVD at the district and local levels.
5. Provide a stronger scientific foundation for developing a comprehensive state plan to address heart disease and stroke in Nebraska.
6. Strengthen grant applications at the district, local, and statewide levels.
7. Provide state health professionals with a better understanding of geographic regions in Nebraska at high risk for CVD and its associated risk factors that can lead to decreased disparity.

To reiterate, the main purpose for compiling the information in this report is to provide local health professionals a readily available source of information from which they can form strategies for facilitating community outreach and education, with regards to the improvement of local cardiovascular health. By summarizing the most recent information about four common sources of CVD mortality and nine preventable risk factors relative to statewide trends, health professionals now have at their disposal a summary of information which may be helpful in formulating localized public health efforts to improve cardiovascular health, and ideally strengthen the flow of information and cooperative efforts between neighboring health departments and statewide entities.

Methods

Primarily, two data sources were used to compile this report: the Nebraska Behavioral Risk Factor Surveillance System (BRFSS) and death certificate information from the Nebraska Vital Records. Below, a brief description of each primary data source is presented, and an overview of ancillary data sources is summarized.

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS, the world's largest telephone health survey, is a cross-sectional random-digit dial telephone survey of non-institutionalized U.S. adults aged 18 and older. Interviews are conducted every month in all participating states and territories. Topics cover chronic disease and injury, and are specific to adult risk behaviors, clinical preventative health practices, and selected health conditions. Each year within the BRFSS, there is a core set of modules (asked by all participating states and territories) and an optional set of modules (selected by individual states). Many of the core and module sections rotate on a yearly basis, and subsequently some sections are not asked each year.

While the questionnaire is developed each year by the CDC, the collection and reporting of BRFSS data within Nebraska is administered by the Nebraska Health and Human Services System. Nebraska began conducting the BRFSS in 1982, and since has conducted the survey on an ongoing basis each year. This report contains data collected during the years of 1995 to 2003. BRFSS data are weighted to reflect the Nebraska adult population. Subsequently, all BRFSS percentages in this report represent weighted data while all 'N' values represent the un-weighted sample size. If additional information regarding the methodology behind the BRFSS is desired, visit the CDC website at www.cdc.gov/brfss or contact the Nebraska BRFSS coordinator at (402) 471-0516.

Nebraska Vital Records (death certificate data)

Mortality data in Nebraska are collected on a yearly basis from individual death certificates. These death certificates are collected and compiled by the Nebraska Office of Vital Statistics. This data source provides information on a variety of attributes of the deceased (such as age, race/ethnicity, gender, place of residence, and primary and secondary causes of death).

Mortality data compiled between 1999-2003 were used in this report. During this time period, all deaths were coded using the 10th version of the International Classification of Disease (ICD) system (ICD-10). In Nebraska, mortality data are readily available through 1979. However, data collected in years 1979 to 1998 used the 9th revision of the ICD (ICD-9). Because of the update that occurred starting in 1999, it is more difficult to compare data from the time period 1979 to 1998 to data after 1998. Given the comparability discrepancies between the two coding systems and their effect on the validity of trends, we chose to only look at the 1999-2003 subset.

Ancillary Data Overview

Additional data used for this report included the 2000 Nebraska Health Departments Demographic Summaries, from which we report the total population, average age of residents, educational attainment of the population, and a limited summary of racial/ethnic composition.

For comparisons of statewide rates with adjoining states, data were downloaded from the CDC Wonder website (http://wonder.cdc.gov/) and the BRFSS website (http://www.cdc.gov/brfss/).

Analysis

Target populations for this report include residents within each of Nebraska's local public health department regions. For this report, this includes all district health department regions within Nebraska as well as county health departments that qualify as their own local district health department, according to the 2001 Nebraska Health Care Funding Act (LB 692) (**Appendix C**). Counties that have not officially agreed to abide by the stipulations of LB 692 have subsequently been absorbed into the most logical officially recognized local public health department, for the purpose of this report. Specifically, the county of Scotts Bluff is considered a part of the Panhandle Public Health Department and Dakota county is included with the Northeast Nebraska Public Health Department.

Descriptive analyses are presented for the total sample population and separated by gender for each district and local public health department region. Due to the small racial and ethnic minority populations within most of Nebraska's health department regions, specific descriptive analyses were not included for these populations. However, the separate Fact Sheets included in **Appendix A** do include summary statistics for the total population, average age, median income, education, and racial and ethnic composition for each of Nebraska's local public health departments.

The preventable risk factors in this report include obesity, fruit and vegetable consumption, physical inactivity, high blood pressure, high blood cholesterol, current cholesterol screening, diagnosed diabetes, cigarette smoking, and health care coverage for Nebraska adults. Age-adjusted mortality rates for total CVD and its sub-components, heart disease, stroke, and sudden cardiac death, are also presented. All risk factor data was obtained from the Nebraska BRFSS, while all mortality data was obtained from the Nebraska Vital Records. Specific definitions and years used for each source of mortality and preventable risk factors are listed on pages 8 - 9.

Statistical Analysis of CVD Risk Factors and Mortality

All BRFSS data were weighted by age and gender to reflect Nebraska's population, using the CDC's weighting methodology. All analyses of BRFSS data were conducted using SAS, Version 8.0, and in order to obtain correct standard errors of percentages, PROC CROSSTAB in SAS-callable SUDAAN was used. A useful tutorial presented by Brogan (2002)[1] discusses the implementation of the CDC's weighting methodology for BRFSS data and how to obtain mathematically correct standard errors using SAS-callable SUDAAN. All mortality sources were adjusted to the 2000 U.S. standard population to reflect differences independent of age. For age-adjustment, the average number of deaths per year between 99-03 was used as the numerator and the 2001 Nebraska population (the midpoint for 99-03) was used as the AAR denominator. All analyses of Nebraska Vital Records were conducted using SAS, Version 8.0, with assistance from the Data Management Section of the Nebraska Department of Finance and Support.

There are multiple factors that may contribute to the variability observed according to local public health department results. Such factors include age, gender, race, ethnicity, median household income and population density, for example. All risk factor results in this report were

weighted to reflect the state's age and gender composition. We did not account for any additional factors statewide, nor did we account for the estimated age and gender composition per local public health department region. Therefore, a word of caution is necessary when interpreting these findings. The risk factor percentages represent the true prevalence per risk factor for each local public health department region. Consequently, when making comparisons between different regions, observed differences may be due in part to other factors that were not accounted for through weighting.

In addition to the non-weighted response/death counts, weighted percentages, age-adjusted mortality rates, and 95% confidence margins tabulated for males, females, and the total sample population in the 18 local public health departments, additional summary statistics reported for preventable risk factors and causes of death are as follows:

Rank	Computed for totals, males, and females relative to all other local public health departments based on the percentage for each indicator and source of mortality.
Relative Risk	Represents the ratio of weighted percentages for males to weighted percentages for females. Relative risk was calculated based on the percentage for each indicator.

To compare between weighted risk factor percentages, the z-test for proportions was used by finding the difference between the percentage estimates for a given health department and the percentage for the rest of the state combined divided by the standard error of the difference. Using SUDAAN, standard errors and weighted percentages were obtained for each of the local public health departments. For the remainder of this report, all comparisons were considered to be significantly different when the absolute value of our test statistic was greater than or equal to 1.96 (α = 0.05, 95% confidence).

To compare age-adjusted mortality rates, 95% confidence intervals were compared between two target groups and examined for overlap. For non-overlapping confidence intervals it was concluded that the rates were significantly different. To find these confidence intervals, the following formula, proposed by Keyfitz (1966)[2] was used:

$$R \pm (1.96 \times S.E.)$$

where

R: age-adjusted rate, $S.E. = R/\sqrt{N}$, N: number of deaths.

To compare relative risk ratios, 95% confidence intervals were again compared and interpreted in a manner similar to what has been previously described. To find these confidence intervals, methodology discussed in Agresti (2002)[3] was used.

CVD Risk Factors

Data Source: Behavioral Risk Factor Surveillance System

Diagnosed High Blood Pressure Years: 1995, 1997, 1999, 2001, 2003

Percentage of adults reporting they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high.

Diagnosed High Blood Cholesterol Years: 1995, 1997, 1999, 2001, 2003

Among adults who have ever had their blood cholesterol checked, percentage reporting that a doctor, nurse, or other health professional have ever told them that their blood cholesterol is high.

Current Cholesterol Screening Years: 1995, 1997, 1999, 2001, 2003

Adults who have had their blood cholesterol checked within the last 5 years prior to being interviewed.

Obesity Years: 1995-2003

Body Mass Index (BMI) is calculated by dividing self-reported weight in kilograms by height in meters squared (kg-m^{-2}). Obesity is determined based on BMI.

Respondents are classified as obese if $BMI \geq 30$

Current Cigarette Smoking Years: 1995-2003

Percentage of adults who have smoked at least 100 cigarettes during their life and currently smoke either everyday or on some days.

No Leisure Time Physical Activity Years: 1996, 1998-2003

Represents the percentage of adults that, other than their regular job, did not participate in any physical activities or exercises during the 30 days preceding the survey.

No Health Care Coverage, (age 18-64) Years: 1995-2003

Percentage of adults who do not have any kind of health care coverage, such as heath insurance, prepaid plans such HMOs, or government plans such as Medicare.

Note: Senior citizens (age greater than 64 years) were not included since they are automatically eligible for governmental plans such as Medicare

Diagnosed Diabetes Years: 1995-2003

Percentage of adults who have ever been told by a doctor, nurse, or other health professional that they have diabetes (excluding gestational diabetes).

5-a-day (Fruit and Vegetable Consumption) Years: 1996, 1998, 2000, 2002, 2003

The percentage of adults reporting consumption of 5 or more servings of fruits and vegetables per day.

CVD-Related Causes of Death

Data Source: Nebraska Vital Statistics System Years: 1999-2003

Total Cardiovascular Disease (CVD) ICD-10 codes: I00-I99

All diseases of the heart and blood vessels, which includes coronary heart disease, stroke, congestive heart failure, hypertensive disease, and atherosclerosis. CVD is also commonly referred to as "diseases of the circulatory system."

Heart Disease ICD-10 codes: I00-I09, I11, I13, and I20-I51

Heart disease is a form of cardiovascular disease; it includes all diseases of the heart, which includes acute rheumatic fever and chronic rheumatic heart disease, hypertensive heart disease, hypertensive heart and renal disease, coronary heart disease, congestive heart failure, as well as other forms of heart disease.

Sudden Cardiac Death ICD-10 codes: I00-I09, I11, I13, I20-I51, and Q20-Q24*

Sudden cardiac deaths (SCD) result from sudden cardiac arrest, in which the heart stops beating abruptly or unexpectedly. Sudden cardiac death is often associated with coronary heart disease, while the most common underlying cause of sudden cardiac death is heart attack. Sudden cardiac death victims may or may not have diagnosed heart disease.

*Note: Death occurred in one of the following locations:
Outpatient, E.R., residence, nursing home, or other out of hospital death.

Stroke ICD-10 codes: I60-I69

Stroke is a type of cardiovascular disease. It affects the arteries leading to and within the brain. A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts. When that happens, part of the brain cannot get the blood (and oxygen) it needs, so it starts to die.

Total CVD Mortality

Nebraska and the Nation

- Cardiovascular disease (CVD) is the leading cause of death in Nebraska for both genders and all racial and ethnic groups (except Asians). In 2003, CVD claimed the lives of 5,548 Nebraska residents, of which 653 were under the age of 65. Total CVD accounts for slightly more than 1 in every 3 deaths (or 35.9% of all deaths) in Nebraska.
- In addition to directly causing death, CVD contributes indirectly to a large number of deaths resulting from other conditions. In 2003, CVD was listed as the primary cause or a contributing factor in 9,207 deaths, or 3 in every 5 Nebraska deaths (59.6%) in 2003.
- In 2001, Nebraska's total CVD mortality rate (age-adjusted) was ranked 28th among all 50 U.S. states and the District of Columbia (interquartile range 272.2 – 373.1). Compared to bordering states, residents of Nebraska were more likely to die from total CVD than residents of Colorado (208.5) and Wyoming (267.9), and less likely than residents of Iowa (386.4) and Missouri (386.7) (all $p < 0.05$).
- Heart disease mortality rates in Nebraska continue to decline. Between 1979 and 2003, Nebraska's age-adjusted heart disease mortality rate declined 43% (from 353.8 to 200.8 deaths per 100,000 population respectively). However, some research is indicating that much of the improvement in heart disease mortality has resulted from better care rather than less disease.[4]

Nebraska's Local Public Health Departments (1999 – 2003)

- Statewide, the age-adjusted mortality rate due to total CVD was 294.0 deaths per 100,000 population (range according to local public health departments: 250.9 – 321.9 per 100,000 population). The rate for males (354.7 per 100,000 population, range: 304.8 - 401.9) was greater than the rate for females (248.7 per 100,000 population, range: 213.5 – 275.6).
- Two of the eighteen local public health departments (Lincoln-Lancaster County and Three Rivers Public) had significantly lower mortality rates (259.3 and 250.9 per 100,000 population, respectively) than the state as a whole (at 294.0)
- Although not statistically significant, three local public health departments (Elkhorn Logan Valley Public, Northeast Nebraska Public, and Sarpy/Cass County) had noticeably higher mortality rates (321.9, 321.5, and 317.2 per 100,000 population, respectively) then the state as a whole (at 294.0).
- Statewide, males were significantly more likely to die from total CVD than females. Furthermore, this pattern was statistically consistent for all of the 18 local public health departments.

Total Cardiovascular Disease Mortality * Among Nebraska Residents by Nebraska Health Department and Gender, 1999-2003

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	
Nebraska	***28,971***	***294.0***	***---***	***13,057***	***354.7***	***---***	***15,914***	***248.7***	***---***	*1.43* [+]
Central District Health Department	1,208	277.7	4	568	338.1	5	640	230.4	4	1.47 [+]
Douglas County Health Department	6,279	301.9	11	2,836	361.8	10	3,443	258.7	12	1.40 [+]
East Central District Health Department	971	281.2	5	431	334.9	4	540	237.0	5	1.41 [+]
Elkhorn Logan Valley Public Health Department	1,402	321.9	18	616	394.6	17	786	267.3	17	1.48 [+]
Four Corners Health Department	1,043	298.1	8	502	374.8	13	541	242.9	7	1.54 [+]
Lincoln-Lancaster County Health Department	2,864	259.3 [--]	2	1,255	304.8 [--]	1	1,609	225.6	2	1.35 [+]
Loup Basin Public Health Department	904	298.2	9	395	341.3	6	509	264.7	16	1.29 [+]
North Central District Health Department	1,376	301.6	10	608	353.7	7	768	256.7	11	1.38 [+]
Northeast Nebraska Public Health Department	1,019	321.5	17	472	401.9	18	547	259.8	13	1.55 [+]
Panhandle Public Health Department	1,988	305.2	12	936	383.3	16	1,052	247.3	9	1.55 [+]
Public Health Solutions	1,599	306.8	15	686	367.1	12	913	260.1	14	1.41 [+]
Sarpy/Cass Department of Health and Wellness	1,411	317.2	16	661	379.6	14	750	275.6	18	1.38 [+]
South Heartland District Health Department	1,118	305.4	13	509	379.7	15	609	250.6	10	1.52 [+]
Southeast District Health Department	964	276.4	3	419	330.3	3	545	240.3	6	1.37 [+]
Southwest Nebraska Public Health Department	839	287.4	6	394	363.7	11	445	228.2	3	1.59 [+]
Three Rivers Public Health Department	1,285	250.9 [--]	1	543	306.2	2	742	213.5	1	1.43 [+]
Two Rivers Public Health Department	1,742	297.0	7	791	357.8	8	951	246.6	8	1.45 [+]
West Central District Health Department	959	305.9	14	435	359.4	9	524	262.1	15	1.37 [+]

* ICD-10 codes I00 - I99

[a] Total number of deaths attributed to cardiovascular disease between 1999-2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

[+] The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

[++] The rate is significantly higher ($p < 0.05$) than all other Nebraska local health departments

[--] The rate is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Source: Nebraska Vital Records

Heart Disease Mortality

Nebraska and the Nation

- Independently from other forms of CVD, heart disease is the leading cause of death for both men and women in Nebraska. In 2003, heart disease claimed the lives of 3,984 Nebraska residents, of which 523 were under the age of 65. Heart disease accounts for approximately 1 in every 4 deaths in Nebraska.
- Heart disease mortality rates in Nebraska continue to decline. Between 1979 and 2003, Nebraska's age-adjusted heart disease mortality rate declined 43% (from 353.8 to 200.8 deaths per 100,000 population respectively). However, some research indicates that much of the improvement in heart disease mortality has resulted from better care rather than less disease.
- In 2001, Nebraska's heart disease mortality rate (age-adjusted) was 15% lower than the national rate and ranked 14th lowest (tied with North Dakota) among all 50 U.S. states and the District of Columbia (interquartile rate range 210.4-271.0). Compared to bordering states, residents of Nebraska are more likely to die from heart disease than residents of Colorado (181.0) and less likely than residents of Iowa (224.0), Kansas (224.0), and Missouri (271.9).
- The promising news is that studies among people with heart disease have shown that lowering high blood cholesterol and high blood pressure can reduce the risk of dying of heart disease, having a nonfatal heart attack, and needing heart bypass surgery or angioplasty. In contrast, studies among people without heart disease have shown that lowering high blood cholesterol and high blood pressure can reduce the risk of developing heart disease.[4]

Nebraska's Local Public Health Departments (1999 – 2003)

- Statewide, the age-adjusted mortality rate due to heart disease was 214.1 deaths per 100,000 population (range according to Local Public Health Departments: 163.7 – 245.7 per 100,000 population). The rate for males (269.9 per 100,000 population, range: 212.3 – 320.9) was greater than the rate for females (172.6 per 100,000 population, range: 133.4 – 195.6).
- Two of the eighteen local public health departments (Lincoln-Lancaster County and Three Rivers Public) had significantly lower mortality rates (182.6 and 163.7 per 100,000 population, respectively) than the state as a whole (at 214.1)
- Although not statistically significant, three local public health departments (Elkhorn Logan Valley Public, Northeast Nebraska Public, and South Heartland District) had noticeably higher mortality rates (245.7, 244.5, and 235.9 per 100,000 population, respectively) then the state as a whole (at 214.1).
- Statewide, males were significantly more likely to die from heart disease then females. Furthermore, this pattern was statistically consistent for all of the 18 local public health departments.

Heart Disease Mortality * Among Nebraska Residents by Nebraska Health Department and Gender, 1999-2003

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	
Nebraska	***21,018***	***214.1***	***---***	***9,976***	***269.9***	***---***	***11,042***	***172.6***	***---***	*1.56* +
Central District Health Department	890	205.7	6	436	258.9	5	454	163.5	5	1.58 +
Douglas County Health Department	4,482	215.2	8	2,164	272.9	9	2,318	174.5	9	1.56 +
East Central District Health Department	640	187.0	3	291	225.5	3	349	152.3	3	1.48 +
Elkhorn Logan Valley Public Health Department	1,055	245.7 ++	18	500	320.9	18	555	190.9	14	1.68 +
Four Corners Health Department	813	232.8	14	416	310.8	16	397	177.1	10	1.75 +
Lincoln-Lancaster County Health Department	2,016	182.6 --	2	934	224.6 --	2	1,082	151.3	2	1.48 +
Loup Basin Public Health Department	684	226.3	10	308	267.4	7	376	192.4	15	1.39 +
North Central District Health Department	1,054	231.4	11	480	278.9	11	574	193.1	16	1.44 +
Northeast Nebraska Public Health Department	764	244.5	17	374	316.7	17	390	187.6	11	1.69 +
Panhandle Public Health Department	1,454	224.1	9	724	296.7	14	730	169.4	8	1.75 +
Public Health Solutions	1,204	232.3	13	533	286.6	12	671	189.8	13	1.51 +
Sarpy/Cass Department of Health and Wellness	1,049	233.0	15	522	289.7	13	527	193.9	17	1.49 +
South Heartland District Health Department	860	235.9	16	401	299.3	15	459	188.1	12	1.59 +
Southeast District Health Department	670	196.5	4	304	240.7	4	366	166.5	6	1.45 +
Southwest Nebraska Public Health Department	595	205.2	5	293	271.6	8	302	153.5	4	1.77 +
Three Rivers Public Health Department	834	163.7 --	1	377	212.3 --	1	457	133.4 --	1	1.59 +
Two Rivers Public Health Department	1,230	211.3	7	587	265.5	6	643	168.1	7	1.58 +
West Central District Health Department	724	231.7	12	332	274.3	10	392	195.6	18	1.40 +

* ICD-10 codes I00 - I09, I11, I13, and I20 - I51

[a] Total number of deaths attributed to heart disease between 1999-2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

++ The rate is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The rate is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Source: Nebraska Vital Records

Sudden Cardiac Death

Nebraska and the Nation

- In 2003, sudden cardiac death (SCD) claimed the lives of 2,623 Nebraska residents, of which 356 (or 13.6%) were under the age of 65. Sudden cardiac death accounts for approximately 1 in every 6 deaths in Nebraska. In addition to directly causing death, SCD contributes indirectly to a large number of deaths resulting from other conditions. In 2003, SCD was listed as the primary cause or a contributing factor in 4,906 deaths, or 1 in every 3 Nebraska deaths (31.8%) in 2003.
- In 1999, Nebraska's SCD mortality rate (age-adjusted) was nearly 10% lower than the national rate and ranked 18th lowest among all 50 U.S. states and the District of Columbia (interquartile rate range 155.0 – 184.1). Compared to bordering states, residents of Nebraska are more likely to die from SCD than residents of Colorado (140.1) and Kansas (146.9), and less likely than residents of Missouri (198.9) (all $p < 0.05$).
- Although SCD leads to a large number of preventable deaths in Nebraska each year, Nebraska ranks well when compared to the nation as a whole. In 1999, U.S. residents were 11% more likely than Nebraskans to die from SCD.
- The large number of annual deaths from SCD indicates a statewide need to increase public awareness of heart attack signs and symptoms, assure that quality emergency medical services are available and utilized, and that health professionals are properly diagnosing and treating the condition.[4]

Nebraska's Local Public Health Departments (1999 – 2003)

- Statewide, the age-adjusted mortality rate due to sudden cardiac death was 111.1 deaths per 100,000 population (range according to local public health departments: 77.1 – 142.3 per 100,000 population). The rate for males (138.8 per 100,000 population, range: 94.1 – 184.3) was greater than the rate for females (89.5 per 100,000 population, range: 63.9 – 111.3).
- Two of the eighteen local public health departments (East Central District and Three Rivers Public) had lower mortality rates (95.3 and 77.1 per 100,000 population, respectively) than the state as a whole (at 111.1).
- Although not all statistically significant, three local public health departments (Elkhorn Logan Valley Public, Public Health Solutions, and West Central District) had noticeably higher mortality rates (142.3, 128.5, and 129.1 per 100,000 population, respectively) than the state as a whole (111.1).
- Statewide, males were more likely to die from sudden cardiac death than females. Furthermore, this pattern was statistically consistent for all of the 18 local public health departments.

Sudden Cardiac Death * Among Nebraska Residents by Nebraska Health Department and Gender, 1999-2003

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	
Nebraska	***11,051***	***111.1***	***---***	***5,115***	***138.8***	***---***	***5,936***	***89.5***	***---***	*1.55* +
Central District Health Department	442	101.0	4	228	136.6	7.5	214	73.9	3	1.85 +
Douglas County Health Department	2,246	107.3	7	1,048	132.4	5	1,198	88.4	7	1.50 +
East Central District Health Department	326	95.3	2	148	115.2	2	178	76.1	4	1.51 +
Elkhorn Logan Valley Public Health Department	620	142.3 ++	18	287	184.3	18	333	111.3	18	1.66 +
Four Corners Health Department	439	122.7	14	214	159.2	17	225	97.1	14	1.64 +
Lincoln-Lancaster County Health Department	1,132	101.6	5	504	121.8	3	628	85.1	6	1.43 +
Loup Basin Public Health Department	348	116.3	10	167	146.3	10	181	93.7	10	1.56 +
North Central District Health Department	543	117.2	11	247	144.4	9	296	94.1	11	1.53 +
Northeast Nebraska Public Health Department	363	113.9	9	161	136.6	7.5	202	91.5	9	1.49 +
Panhandle Public Health Department	801	121.5	12	380	157.3	16	421	94.5	12	1.66 +
Public Health Solutions	685	128.5	16	290	155.7	14	395	107.0	17	1.46 +
Sarpy/Cass Department of Health and Wellness	556	124.4	15	274	151.5	12	282	103.8	16	1.46 +
South Heartland District Health Department	451	122.6	13	204	153.0	13	247	96.8	13	1.58 +
Southeast District Health Department	339	98.5	3	154	123.8	4	185	79.4	5	1.56 +
Southwest Nebraska Public Health Department	298	102.3	6	157	146.4	11	141	68.3	2	2.14 +
Three Rivers Public Health Department	405	77.1 --	1	167	94.1 --	1	238	63.9 --	1	1.47 +
Two Rivers Public Health Department	651	109.9	8	295	133.3	6	356	89.8	8	1.48 +
West Central District Health Department	406	129.1	17	190	156.7	15	216	102.8	15	1.52 +

* ICD-10 codes I00 – I09, I11, I13, I20 – I51, Q20 – Q24 and death occurred (outside of inpatient care) in one of the following locations: outpatient, ER, residence, nursing home, or other out of hospital death

[a] Total number of sudden cardiac deaths between 1999-2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

\+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

++ The rate is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The rate is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Source: Nebraska Vital Records

Stroke Mortality

Nebraska and the Nation

- Independently from other forms of CVD, stroke is the third leading cause of death in Nebraska. In 2003, stroke claimed the lives of 1,090 Nebraska residents, of which 668 (or 61%) occurred among females. Stroke accounts for approximately 1 in every 14 deaths in Nebraska.
- Unlike heart disease mortality rates, stroke mortality rates (age-adjusted) are declining at a much slower pace. The stroke mortality rate in Nebraska has experienced only a slight decline since the early 1990's.
- In 2001, Nebraska's stroke mortality rate (age-adjusted) was ranked 21st among all 50 US states and the District of Columbia (interquartile rate range 52.5 – 64.7). Compared to bordering states, residents of Nebraska were just as likely to die from stroke as residents from the other six states (all $p > 0.05$).
- For those who are fortunate enough to survive a stroke, many are left with serious, long-term disabilities that result in limitations of active daily living. Fortunately, thrombolytic drugs are now widely available and very effective for saving the lives of stroke victims. However, given the limited window for thrombolytic administration, it is critically important that victims recognize their stroke signs, have access to quality emergency medical services, and have access to hospitals designed to properly treat stroke.[4]

Nebraska's Local Public Health Departments (1999 – 2003)

- Statewide, the age-adjusted mortality rate due to stroke was 56.1 deaths per 100,000 population (range according to local public health departments: 44.7 – 65.5 per 100,000 population). The rate for males (58.2 per 100,000 population, range: 45.1 – 70.5) was only slightly greater (not statistically significant) than the rate for females (54.4 per 100,000 population, range: 43.2 – 61.9).
- Two of the eighteen local public health departments (Four Corners and West Central District) had slightly lower mortality rates (44.7 and 48.0 per 100,000 population, respectively) than the state as a whole (at 56.1).
- Although not statistically significant, three local public health departments (Northeast Nebraska Public, Sarpy/Cass counties, and Three Rivers Public Health) had noticeably higher mortality rates (65.4, 62.5, and 65.5 per 100,000 population, respectively) than the state as a whole (at 56.1).
- Statewide, males and females were equally likely to die from stroke. Furthermore, this pattern was statistically consistent for all of the 18 local public health departments.

Stroke Mortality * Among Nebraska Residents by Nebraska Health Department and Gender, 1999-2003

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	N[a]	AAR[b]	Rank[c]	
Nebraska	***5,583***	***56.1***	***---***	***2,114***	***58.2***	***---***	***3,469***	***54.4***	***---***	*1.07*
Central District Health Department	245	55.7	8	103	61.2	12	142	51.0	5	1.20
Douglas County Health Department	1,199	57.8	12	446	58.5	10	753	56.4	13	1.04
East Central District Health Department	197	56.2	10	81	63.3	13	116	52.1	7	1.21
Elkhorn Logan Valley Public Health Department	257	56.8	11	85	54.0	3	172	57.6	15	0.94
Four Corners Health Department	158	44.7	1	61	45.1	1	97	44.5	2	1.01
Lincoln-Lancaster County Health Department	555	50.3	3	197	48.9	2	358	50.5	4	0.97
Loup Basin Public Health Department	169	54.2	6	66	55.7	7	103	54.4	9.5	1.02
North Central District Health Department	254	54.6	7	96	55.4	5	158	52.0	6	1.07
Northeast Nebraska Public Health Department	216	65.4	17	81	70.2	17	135	61.9	18	1.13
Panhandle Public Health Department	351	52.9	5	133	54.7	4	218	53.1	8	1.03
Public Health Solutions	295	56.0	9	114	59.7	11	181	54.4	9.5	1.10
Sarpy/Cass Department of Health and Wellness	265	62.5	16	99	68.6	16	166	60.4	17	1.14
South Heartland District Health Department	198	52.7	4	77	57.1	8	121	49.4	3	1.16
Southeast District Health Department	212	58.2	13	82	63.6	14	130	55.8	12	1.14
Southwest Nebraska Public Health Department	176	60.1	15	73	66.6	15	103	54.6	11	1.22
Three Rivers Public Health Department	336	65.5	18	125	70.5	18	211	60.0	16	1.18
Two Rivers Public Health Department	349	58.4	14	128	58.1	9	221	56.8	14	1.02
West Central District Health Department	151	48.0	2	67	55.6	6	84	43.2	1	1.29

* ICD-10 codes I60 – I69

[a] Total number of stroke deaths between 1999-2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

Source: Nebraska Vital Records

Current cholesterol screening

According to 2001 estimates from the National Health and Nutrition Examination Survey, an estimated 105 million Americans have high blood cholesterol (total cholesterol of 200 mg/dl or higher). When blood cholesterol levels are high, excess cholesterol is deposited in the arteries, including those of the heart, which can lead to narrowing of the arteries and heart disease. The positive news is that studies among people with heart disease have shown that lowering cholesterol can reduce the risk for dying from heart disease, having a nonfatal heart attack, and needing heart bypass surgery or angioplasty. [4]

***Nebraska HP2010 Objective**:* 80% (#12-15)

Statewide Highlights and Trends up to 2003

- Approximately 2 in every 3 Nebraska adults (69.0%) have had a current blood cholesterol screening. In contrast, this indicates that approximately 1 in every 3 (31.0%), or an estimated 426 to 466 thousand Nebraska adults, have not had a current blood cholesterol screening.
- Between 1989-2003, current blood cholesterol screening has steadily risen from 53.6% to 69.0%.
- In 2003, Nebraska ranked 9th lowest in the percentage of adults that have ever had a blood cholesterol screening among 54 U.S. states and territories (interquartile range 70.3% to 76.7%).
- Compared to bordering states, Nebraska adults are less likely than adults in Missouri (71.5%), Colorado (71.2%), Iowa (71.3%), and Wyoming (72.9%) to have had a current cholesterol screening ($p < 0.05$).

Cholesterol screening among the State's Local Public Health Departments (1995 – 2003)

- The lowest percentage (60%) of people reporting a current cholesterol screening occur in the Elkhorn Logan Valley Public Health Department, with 55.3% of males with a current screening, ranked lowest in the state, and 64.4% of females, ranked third lowest.
- Although they do not stand out statistically, residents of the Public Health Solutions and the Three Rivers Public Health Departments rank highest, regardless of gender, for having had a current cholesterol screening.
- Although no sub-grouping in the state has attained the HP2010 objective of 80% of the population reporting a current cholesterol screening, 77.8% of females in the Three Rivers Public Health Department are the closest to this benchmark.
- Statewide, males are less likely to have had a current cholesterol screening than females. Furthermore, this pattern is consistent for all of the local public health departments and statistically significant for 5 of the 18 local public health departments.

Current Cholesterol Screening * Among Nebraska Adults (that have had a screening) by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***15,428***	***65.4***	***---***	***6,070***	***62.2***	***---***	***9,358***	***68.5***	***---***	*0.91* -
Central District Health Department	590	63.4	12	225	60.6	13	365	65.8	11	0.92
Douglas County Health Department	4,002	67.7 ++	4	1,520	63.6	7	2,482	71.4 ++	3	0.89 -
East Central District Health Department	492	61.9	13	198	56.8	16	294	66.7	9	0.85 -
Elkhorn Logan Valley Public Health Department	542	60.0 --	18	209	55.3	18	333	64.4	16	0.86 -
Four Corners Health Department	448	64.4	10	171	63.8	6	277	65.0	13	0.98
Lincoln-Lancaster County Health Department	2,297	64.8	8	959	61.6	10	1,338	68.1	7	0.90 -
Loup Basin Public Health Department	352	61.6	16	142	57.8	15	210	65.4	12	0.88
North Central District Health Department	516	64.5	9	195	62.8	8	321	66.0	10	0.95
Northeast Nebraska Public Health Department	418	61.8	14	172	58.9	14	246	64.8	15	0.91
Panhandle Public Health Department	884	61.8	15	366	61.0	12	518	62.7 --	18	0.97
Public Health Solutions	556	69.1	2	221	67.8	1	335	70.1	5	0.97
Sarpy/Cass Department of Health and Wellness	1,113	66.5	7	451	64.6	3	662	68.3	6	0.95
South Heartland District Health Department	453	67.2	6	179	64.1	5	274	70.1	4	0.91
Southeast District Health Department	415	68.8	3	167	64.5	4	248	73.4	2	0.88
Southwest Nebraska Public Health Department	355	60.7	17	136	56.6	17	219	64.3	17	0.88
Three Rivers Public Health Department	689	69.9	1	261	61.2	11	428	77.8 ++	1	0.79 -
Two Rivers Public Health Department	842	63.5	11	317	61.9	9	525	65.0	14	0.95
West Central District Health Department	464	67.5	5	181	67.0	2	283	67.9	8	0.99

* Adults who have had their blood cholesterol checked within the last 5 years prior to being interviewed.

** Includes only years 1995, 1997, 1999, 2001, 2003 (questions were not asked during other calendar years)

[a] Non-weighted sample size for each health department for 1995, 1997, 1999, 2001, 2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is highest to lowest

[d] Relative risk is the male to female rate ratio

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 598 cases missing for reporting a current cholesterol screening, 3.7% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Diagnosed Diabetes

The health consequences of diabetes, including increased risk for heart disease and stroke, are serious. Heart disease and stroke contribute to approximately 65% of deaths among diabetics, with heart disease being the leading cause of diabetes-related death. Diabetic adults compared to non-diabetic adults have heart disease death rates about 2 to 4 times higher. In addition, stroke risk is 2 to 4 times higher among people with diabetes. Frighteningly, type 2 diabetes, formerly considered "adult onset" diabetes, is now being diagnosed more frequently among children and adolescents. [4]

***Nebraska HP2010 Objective**:* 25 per 1,000 adults (18 and older) (2.5%) (#5-3)

Statewide Highlights and Trends up to 2003

- About 1 in every 16 Nebraska adults, or an estimated 66,000 to 84,000 Nebraska adults, has diagnosed diabetes (6.4%).

- Between 1989 and 2003, the trend in diagnosed diabetes among Nebraska adults has remained virtually unchanged, fluctuating between 4.4 and 6.4%.

- In 2003, Nebraska adults ranked 19th lowest in diagnosed diabetes among 54 U.S. states and territories (interquartile range 6.2% to 8.1%).

- Compared to bordering states, Nebraska adults are more likely than adults in Colorado (4.7%) to have diagnosed diabetes ($p < 0.05$).

Diagnosed diabetes among the State's Local Public Health Departments (1995 – 2003)

- The lowest percentage (4.0%) of diabetes occurs in the Four Corners Health Department, although, females in the region reported the 8th highest percentage of diagnosed diabetes (4.9%) among their gender class; only 2.9% of males in the Four Corners Health Department reported having diagnosed diabetes, statistically lower than the statewide rate of 5.2% for males. Furthermore, males in this region of Nebraska are the closest sub-group, statewide, to reaching the HP2010 objective for diagnosed diabetes.

- The Northeast Nebraska Public Health Department stands out as having a significantly higher percentage of people with diagnosed diabetes when compared to the statewide rate.
  (*Note: the Northeast Nebraska Public also had the highest percentage of obesity*)

- Statewide, males and females are just as likely to be diagnosed with diabetes, a pattern that is consistent for all of the 18 local public health departments.

Diagnosed Diabetes* Among Nebraska Adults by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***28,196***	***5.1***	***---***	***11,022***	***5.2***	***---***	***17,174***	***5.0***	***---***	*1.05*
Central District Health Department	1,128	5.9	15	409	6.1	13	719	5.8	15	1.04
Douglas County Health Department	6,948	5.2	11	2,657	5.4	12	4,291	5.1	9	1.07
East Central District Health Department	896	4.8	7	343	4.7	7	553	4.9	7	0.97
Elkhorn Logan Valley Public Health Department	998	4.2	3	389	2.9 --	2	609	5.4	11	0.55
Four Corners Health Department	841	4.0	1	312	2.9 --	1	529	4.9	8	0.58
Lincoln-Lancaster County Health Department	4,257	4.3 --	4	1,754	4.8	8	2,503	3.8 --	2	1.28
Loup Basin Public Health Department	661	5.9	14	249	5.4	11	412	6.3	16	0.86
North Central District Health Department	964	5.1	9	359	4.4	4	605	5.7	13	0.77
Northeast Nebraska Public Health Department	779	7.9 ++	18	320	8.4 ++	18	459	7.4	18	1.13
Panhandle Public Health Department	1,683	6.1	16	690	6.6	15	993	5.6	12	1.17
Public Health Solutions	1,061	5.0	8	413	4.2	3	648	5.7	14	0.74
Sarpy/Cass Department of Health and Wellness	2,048	4.5	5	850	4.7	6	1,198	4.4	3	1.07
South Heartland District Health Department	850	4.8	6	333	4.9	9	517	4.7	5	1.05
Southeast District Health Department	771	6.3	17	290	6.3	14	481	6.4	17	0.99
Southwest Nebraska Public Health Department	638	5.9	13	239	7.1	17	399	4.9	6	1.44
Three Rivers Public Health Department	1,261	5.2	10	494	5.1	10	767	5.3	10	0.97
Two Rivers Public Health Department	1,517	4.1	2	569	4.6	5	948	3.6 --	1	1.25
West Central District Health Department	895	5.7	12	352	6.8	16	543	4.7	4	1.46

***** Adults who have ever been told by a doctor, nurse, or other health professional that they have diabetes (excluding gestational diabetes).

****** Includes all years 1995-2003

[a] Non-weighted sample size for each health department for 1995-2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 124 cases missing for diagnosed diabetes, 0.4% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

5-a-day Consumption

The United States Department of Agriculture (USDA) recommends that Americans consume at least 5 servings of fruits and vegetables per day ('5-a-day'), while some research studies support the consumption of up to 9 servings of fruits and vegetables per day. According to the Division of Nutrition and Physical Activity at the CDC, a diet rich with fruits and vegetables and low in fats, particularly saturated fats, may help to reduce the risk of cardiovascular disease, high blood pressure and diabetes.[4]

***Nebraska HP2010 Objectives**:* None established

Statewide Highlights and Trends up to 2003

- Less than 1 in every 5 Nebraska adults (17.8%) consumes the USDA recommendation of five or more servings of fruits and vegetables per day (5-a-day), while just 1.3% consumes nine servings or more daily.

- Between 1990 and 2003, 5-a-day consumption among Nebraska adults has remained virtually unchanged.

- In 2003, Nebraska adults ranked 50th highest in 5-a-day consumption among 54 U.S. states and territories (interquartile range 20.4% to 26.0%). Compared to bordering states, Nebraska adults are less likely than adults in Colorado (24.2%), Missouri (20.2%), and Wyoming (22.1%) to consume 5-a-day ($p < 0.05$) while being equally likely to all other bordering states ($p > 0.05$).

5-a-day among the State's Local Public Health Departments (1996 – 2003)

- The highest percentage of a population (23.7%) attaining the 5-a-day consumption guideline occurs in the North Central District Health Department, followed closely by the Four Corners Health Department (23.6%).
- Two state local public health departments (Sarpy/Cass counties and the South Heartland District) stand out as having a lower percentage (16.6% and 15.9%, respectively) of people that consume five or more servings of fruits and vegetables daily.
- Statewide, males are overwhelmingly less likely to consume 5-a-day. This pattern is statistically consistent for 14 of the 18 local public health departments. Furthermore, the percentages of males in the South Heartland District and the Southwest Nebraska Public Health Departments that consume five or more servings of fruits and vegetables daily were significantly less than the statewide percentage of 14.6% for males.
- Females in the Sarpy and Cass Department of Health and Wellness have the lowest percentage (19.9%) that consume five or more servings of fruits and vegetables daily, significantly less then the statewide percentage of 23.6% for females.

"5-a-day Consumption" * Among Nebraska Adults by Nebraska Health Department and Gender, 1996-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***17,203***	***19.3***	***---***	***6,717***	***14.6***	***---***	***10,486***	***23.6***	***---***	*0.62* -
Central District Health Department	710	19.2	10	243	14.7	6	467	22.5	12	0.65 -
Douglas County Health Department	3,994	17.9	14	1,523	13.3	12	2,471	22.1	14	0.60 -
East Central District Health Department	552	20.8	6	210	14.1	7	342	26.2	4	0.54 -
Elkhorn Logan Valley Public Health Department	605	21.0	4	236	13.6	10	369	28.6	2	0.48 -
Four Corners Health Department	515	23.6	2	186	21.3	2	329	25.8	6	0.83
Lincoln-Lancaster County Health Department	2,634	21.0	5	1,080	17.7	3	1,554	24.5	9	0.72 -
Loup Basin Public Health Department	437	18.4	13	161	11.1	16	276	24.0	10	0.46 -
North Central District Health Department	600	23.7 ++	1	218	22.4 ++	1	382	24.7	8	0.91
Northeast Nebraska Public Health Department	482	18.7	12	196	11.5	14	286	25.7	7	0.45 -
Panhandle Public Health Department	1,062	19.7	9	438	11.9	13	624	27.1	3	0.44 -
Public Health Solutions	670	20.3	7	261	13.8	9	409	26.2	5	0.53 -
Sarpy/Cass Department of Health and Wellness	1,278	16.6 --	17	534	13.5	11	744	19.9 --	18	0.68 -
South Heartland District Health Department	534	15.9	18	212	9.0 --	17	322	22.5	13	0.40 -
Southeast District Health Department	461	21.2	3	167	11.4	15	294	29.1	1	0.39 -
Southwest Nebraska Public Health Department	400	17.1	16	150	8.3 --	18	250	23.9	11	0.35 -
Three Rivers Public Health Department	782	17.3	15	323	14.0	8	459	20.5	17	0.69 -
Two Rivers Public Health Department	928	19.7	8	350	16.9	5	578	22.0	15	0.77
West Central District Health Department	559	18.9	11	229	17.3	4	330	20.5	16	0.84

* Adults that consume 5 or more daily servings of fruits and vegetables

** Includes only years 1996,1998, 2000, 2002, 2003 (questions were not asked during other calendar years)

[a] Non-weighted sample size for each health department for 1996,1998, 2000, 2002, 2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

\+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

\- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 70 cases missing for daily fruit and vegetable consumption, 0.4% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Diagnosed High Blood Cholesterol

When blood cholesterol levels are high, excess cholesterol is deposited in the arteries, including those of the heart, which can lead to narrowing of the arteries and heart disease. The positive news is that studies among people with heart disease have shown that lowering cholesterol can reduce the risk for dying from heart disease, having a nonfatal heart attack, and needing heart bypass surgery or angioplasty. For these reasons, one of the national healthy people 2010 objectives is to increase to 80% the proportion of adults aged 20 years and older screened for HBC during the preceding 5 years. [4]

***Nebraska HP2010 Objective**:* 17% (#12-14)

Statewide Highlights and Trends up to 2003

- Nearly 1 in every 3 (30.5%) Nebraska adults (that have ever had a cholesterol screening), or an estimated 337,000 to 380,000, have diagnosed high blood cholesterol.
- Between 1990 and 2003, diagnosed high blood cholesterol increased nearly 29.0%, from 23.7% to 30.5%.
- In 2003, Nebraska ranked 11th lowest in diagnosed high blood cholesterol among 54 U.S. states and territories (interquartile range 30.8% to 34.3%).
- Compared to bordering states, Nebraska adults are less likely than adults in Missouri (33.6%), and Wyoming (34.9%) to have diagnosed high blood cholesterol ($p < 0.05$).

Diagnosed HBC among the State's Local Public Health Departments (1995 – 2003)

- The lowest percentage (22.2%) of diagnosed high blood cholesterol occurs in the East Central District Health Department, significantly less then the statewide percentage of 28.9%. Furthermore, the 23.6% of males diagnosed with high blood cholesterol ranked second lowest statewide, while females ranked lowest with 21.1%, significantly less then the 28.1% of females statewide reporting high blood cholesterol.
- Two state local public health departments (Elkhorn Logan Valley Public and Southeast District) stand out as having a significantly higher percentage of people with diagnosed high blood cholesterol, a pattern which is consistent regardless of gender.
- Females in the East Central District and males in the Southwest Nebraska Public Health Departments come closest to attaining the HP2010 objective of 17% reporting diagnosed high blood cholesterol.
- Statewide, males are more likely to be diagnosed with high blood cholesterol, although this pattern is consistent for only about half of the local public health departments and statistically significant for only 2 of the 18.

Diagnosed High Blood Cholesterol* Among Nebraska Adults (that have had a screening) by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***11,577***	***28.9***	***---***	***4,320***	***29.8***	***---***	***7,257***	***28.1***	***---***	*1.06* [+]
Central District Health Department	435	24.3	2	159	23.7	3	276	24.9	3	0.95
Douglas County Health Department	3,026	28.1	6	1,074	31.0	11	1,952	25.8	5	1.20 [+]
East Central District Health Department	371	22.2 [--]	1	140	23.6	2	231	21.1 [--]	1	1.11
Elkhorn Logan Valley Public Health Department	380	35.7 [++]	17	135	34.2	17	245	36.9 [++]	17	0.93
Four Corners Health Department	346	29.0	10	128	24.8	5	218	32.3	13	0.77
Lincoln-Lancaster County Health Department	1,730	28.8	9	681	31.2	12	1,049	26.7	6	1.17 [+]
Loup Basin Public Health Department	253	30.7	12	98	28.1	7	155	33.0	16	0.85
North Central District Health Department	384	32.0	15	143	35.5	18	241	29.1	9	1.22
Northeast Nebraska Public Health Department	299	27.6	5	116	28.2	8	183	27.1	7	1.04
Panhandle Public Health Department	633	30.2	11	258	30.5	10	375	29.9	10	1.02
Public Health Solutions	418	32.8	16	161	33.4	15	257	32.4	14	1.03
Sarpy/Cass Department of Health and Wellness	863	25.3 [--]	4	338	26.6	6	525	24.1	2	1.11
South Heartland District Health Department	342	24.8	3	128	24.1	4	214	25.5	4	0.94
Southeast District Health Department	335	37.1 [++]	18	126	33.5	16	209	40.3 [++]	18	0.83
Southwest Nebraska Public Health Department	247	28.2	7	89	22.9	1	158	32.5	15	0.70
Three Rivers Public Health Department	546	31.8	14	194	32.8	14	352	31.0	12	1.06
Two Rivers Public Health Department	627	28.6	8	224	28.5	9	403	28.6	8	1.00
West Central District Health Department	342	31.5	13	128	32.3	13	214	30.8	11	1.05

* Adults who have had their blood cholesterol checked, percentage reporting that a doctor, nurse, or other health professional has ever told them that their blood cholesterol is high.

** Includes only years 1995, 1997, 1999, 2001, 2003 (questions were not asked during other calendar years)

[a] Non-weighted sample size for each health department for 1995, 1997, 1999, 2001, 2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

[+] The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

[++] The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

[--] The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 4,449 cases missing for reporting diagnosed high blood cholesterol, 38.4% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Diagnosed High Blood Pressure

The health consequences of high blood pressure, including increased risk for heart disease and stroke, are serious. As a result, the CDC emphasizes the importance of early detection, treatment, and control of high blood pressure. In 2001, an estimated 50 million Americans (or 1 in every 5) had high blood pressure while more than 46,000 died from it. Unfortunately, of those with high blood pressure, 30% do not even know they have it while an additional 25% are on medication but do not have their high blood pressure under control. [4]

***Nebraska HP2010 Objective**:* 16% (#12-9)

Statewide Highlights and Trends up to 2003

- Nearly 1 in every 4 (23.5%), or an estimated 274,000 to 309,000 Nebraska adults have diagnosed high blood pressure.

- Between 1989 and 2003, the trend in diagnosed high blood pressure among Nebraska adults has risen gradually from 20.1% to 23.5%.

- In 2003, Nebraska adults ranked 16th lowest in diagnosed high blood pressure among 54 U.S. states and territories (interquartile range 23.3% to 27.8%).

- Compared to bordering states, Nebraska adults are less likely than adults in Missouri (27.5%) to have diagnosed high blood pressure, but more likely than adults in Colorado (19.8%) to have diagnosed high blood pressure ($p < 0.05$).

Diagnosed HBP among the State's Local Public Health Departments (1995 – 2003)

- The lowest percentage (18.8%) of diagnosed high blood pressure occurs in the Lincoln-Lancaster Health Department. Additionally, females in Lancaster County reported the lowest percentage of diagnosed high blood pressure (18.1%), significantly less than the statewide percentage for females (23.2%).

- Residents of the Southeast District Health Department stand out as having a significantly higher percentage of people with diagnosed high blood pressure, regardless of gender, when compared to the 17 other local public health departments.

- Only males in the Four Corners Health Department (14.8%) have attained the HP2010 objective of 16% of the population having diagnosed high blood pressure.

- Statewide, males and females are equally likely to have diagnosed high blood pressure, except for residents in the Four Corners Health Department, where males are about half as likely as females to have diagnosed high blood pressure.

Diagnosed High Blood Pressure* Among Nebraska Adults by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***15,934***	***22.5***	***---***	***6,247***	***21.7***	***---***	***9,687***	***23.2***	***---***	*0.94* -
Central District Health Department	606	19.5	2	230	20.3	6	376	18.9	2	1.07
Douglas County Health Department	4,130	20.9	4	1,572	20.1	5	2,558	21.6	4	0.93
East Central District Health Department	505	24.0	8	200	26.2	16	305	22.0	5	1.19
Elkhorn Logan Valley Public Health Department	561	22.1	5	220	18.7	2	341	25.3	8	0.74
Four Corners Health Department	465	22.1	6	175	14.8 --	1	290	28.1	15	0.53 -
Lincoln-Lancaster County Health Department	2,359	18.8 --	1	981	19.5	3	1,378	18.1 --	1	1.08
Loup Basin Public Health Department	359	24.3	9	144	20.7	7	215	27.9	14	0.74
North Central District Health Department	536	26.0	15	202	25.0	14	334	26.8	12	0.93
Northeast Nebraska Public Health Department	434	25.6	14	178	22.2	8	256	29.0	17	0.76
Panhandle Public Health Department	909	25.3	12	378	23.4	10	531	27.2	13	0.86
Public Health Solutions	574	25.3	13	228	23.7	11	346	26.7	11	0.89
Sarpy/Cass Department of Health and Wellness	1,142	19.9	3	458	19.9	4	684	19.9	3	1.00
South Heartland District Health Department	466	26.3	17	183	24.3	13	283	28.3	16	0.86
Southeast District Health Department	441	33.8 ++	18	173	30.7 ++	18	268	36.9 ++	18	0.83
Southwest Nebraska Public Health Department	364	24.4	10	139	23.0	9	225	25.7	10	0.89
Three Rivers Public Health Department	723	23.0	7	272	23.8	12	451	22.3	6	1.07
Two Rivers Public Health Department	875	24.9	11	328	26.1	15	547	23.9	7	1.09
West Central District Health Department	485	26.1	16	186	26.7	17	299	25.6	9	1.04

* Percentage of adults reporting they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high.

** Includes only years 1995, 1997, 1999, 2001, 2003 (questions were not asked during other calendar years)

[a] Non-weighted sample size for each health department for 1995, 1997, 1999, 2001, 2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 92 cases missing for reporting diagnosed high blood pressure, 0.6% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Access to Health Care Coverage

"The U.S. health care system is rapidly changing. As this system evolves, health care plans (e.g., health insurance, prepaid plans such as HMOs, and government plans such as Medicaid and Medicare) need to ensure that all Americans have access to affordable, high-quality preventive services, including screening for early detection of chronic diseases." [4]

***Nebraska HP2010 Objective**:* 100% coverage among adults aged 18-64 years (#1-1)

Statewide Highlights and Trends up to 2003

- Nearly 1 in every 7 Nebraska adults aged 18-64 years (13.8%) has no health care coverage, an estimated 130,000 to 160,000 residents.
- Compared to the late 1990's, estimates for no health care coverage among Nebraska adults aged 18-64 years have increased. While just under 10% of Nebraska adults aged 18-64 years were without health care coverage from 1997 to 1999, significantly more were without health care coverage in 2001 (16.5%) and 2003 (13.8%).
- Among adults aged 18 years and older Nebraska ranks well compared to the nation. Out of 54 U.S. states and territories, Nebraska ranked16th lowest in the percentage of adults that do not have any health care coverage (interquartile range 13.7% to 21.5%).
- Compared to bordering states, Nebraska adults, aged 18-64 years, are less likely than adults in Wyoming (19.9%), Colorado (17.1%), and Kansas (15.7%) to not have health care coverage ($p < 0.05$).

No health care coverage (age 18-64) among the State's Local Public Health Departments (1995 – 2003)

- The percentage of adults (age 18-64) without health care coverage in both the North Central District (19.4%) and the Panhandle Public Health Department (18.4%) are significantly higher than the statewide percentage of people without health care coverage (11.7%).
- Three state local public health departments (Sarpy/Cass County, Four Corners, and East Central District) stand out as having a significantly lower percentage (6.7%, 8.3%, and 8.7%, respectively) of adults, ages 18-64, without health care coverage when compared to the statewide percentage.
- Of males in the Central District Health Department, 19.5% reported not having health care coverage, which ranks highest among males in each of the 18 local public health departments. Within the same health department however, only 10.8% of females reported not having health care coverage.
- Statewide, males are more likely to not have healthcare coverage. However, this pattern is only statistically significant for 4 of the 18 local public health departments.

No Health Care Coverage* Among Nebraska Adults (aged 18-64 years) by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***21,108***	***11.7***	***---***	***8,633***	***12.4***	***---***	***12,475***	***10.9***	***---***	*1.14* +
Central District Health Department	840	14.8 ++	14	314	19.5 ++	18	526	10.8	10	1.81 +
Douglas County Health Department	5,508	10.5 --	6	2,194	11.7	9	3,314	9.3 --	4	1.26 +
East Central District Health Department	657	8.7 --	3	261	9.0	3	396	8.4	2	1.08
Elkhorn Logan Valley Public Health Department	692	12.5	11	309	11.7	8	383	13.5	13	0.87
Four Corners Health Department	594	8.3 --	2	235	7.5 --	1	359	9.2	3	0.82
Lincoln-Lancaster County Health Department	3,431	11.3	8	1,456	12.3	10	1,975	10.2	6	1.20
Loup Basin Public Health Department	428	15.6	15	167	19.3	16	261	12.2	11	1.58 +
North Central District Health Department	630	19.4 ++	18	247	19.2 ++	15	383	19.6 ++	18	0.98
Northeast Nebraska Public Health Department	554	12.1	10	246	10.7	6	308	13.7	14	0.78
Panhandle Public Health Department	1,161	18.4 ++	17	502	18.0 ++	14	659	18.8 ++	17	0.96
Public Health Solutions	735	9.7	4	301	9.1	4	434	10.2	5	0.90
Sarpy/Cass Department of Health and Wellness	1,729	6.7 --	1	732	7.9 --	2	997	5.5 --	1	1.44 +
South Heartland District Health Department	589	14.3	13	245	14.5	12	344	14.1	15	1.03
Southeast District Health Department	473	10.8	7	195	11.1	7	278	10.6	7	1.04
Southwest Nebraska Public Health Department	438	17.8 ++	16	171	19.4	17	267	16.4 ++	16	1.18
Three Rivers Public Health Department	904	10.3	5	377	9.8	5	527	10.8	9	0.91
Two Rivers Public Health Department	1,104	11.6	9	424	12.7	11	680	10.7	8	1.19
West Central District Health Department	641	14.3	12	257	15.6	13	384	13.2	12	1.18

* Adults, aged 18-64, reporting they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans such as Medicare

** Includes all years 1995-2003

[a] Non-weighted sample size for each health department for 1995-2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

\+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 130 cases missing for reporting no health care coverage, 0.6% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Obesity

According to the Centers for Disease Control and Prevention (CDC) there is an obesity epidemic occurring among adults in America. Behavioral Risk Factor Surveillance System data indicate that the percentage of obese U.S. adults nearly doubled between 1990 and 2002, increasing from 11.6% to 22.0%.

The physical and emotional impacts of obesity are extraordinary. Obese individuals are 50% to 100% more likely to die prematurely from any cause than individuals at a healthy body weight. In addition, obesity substantially increases the risk for (among other diseases) coronary heart disease, type 2 diabetes, some forms of cancer, and certain musculoskeletal disorders such as osteoarthritis. Obese individuals also may suffer from social stigmatization, discrimination, and poor body image.[4]

Nebraska HP2010 Objective: 15% obese (#19-2)

Statewide Highlights and Trends up to 2003

- Almost 1 in every 4 Nebraska adults (23.9%) is obese while 3 in every 5 (60.9% or an estimated 769,000 to 804,000 adults) is either overweight or obese.
- Between 1990 and 2003, obesity among Nebraska adults more than doubled, increasing from 11.6% to 23.9%.
- When comparing the percentage of obese Nebraska adults to adults in other states during 2003, Nebraskans fall slightly to the unhealthy side. Nebraska ranks tied for 37th lowest in obesity (with Iowa) among 54 U.S. states and territories (interquartile range 20.2% to 24.4%). Compared to bordering states, Nebraska adults are more likely than adults in Colorado (16.0%) and Wyoming (20.1%) to be obese ($p < 0.05$) while being equally likely to all other bordering states ($p > 0.05$).

Obesity among the State's Local Public Health Departments (1995 – 2003)

- The lowest percentage (18.3%) of obesity occurs in the Elkhorn Logan Valley Public Health Department, although, females in this region report the 11th highest percentage of obesity (18.8%) compared to females in each of te 18 local public health deparments.
- Two state local public health departments (Northeast Nebraska Public and Public Health Solutions) stand out as having a significantly higher percentage of obese adults when compared to statewide results.
- Only females in the Sarpy/Cass Counties Department of Health and Wellness have attained the HP2010 objective of 15% of the population being obese.
- Statewide, males are more likely to be obese. Furthermore, this pattern is statistically consistent for 7 of the 18 local public health departments.

Obesity* Among Nebraska Adults by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***26,795***	***19.8***	***---***	***10,822***	***21.6***	***---***	***15,973***	***18.1***	***---***	*1.19* [+]
Central District Health Department	1,068	20.2	10	404	22.2	9	664	18.5	10	1.20
Douglas County Health Department	6,596	18.9	5	2,606	19.5 [--]	3	3,990	18.4	7	1.06
East Central District Health Department	848	21.7	14	337	25.3	15	511	18.4	9	1.37 [+]
Elkhorn Logan Valley Public Health Department	942	18.3	1	381	17.9	1	561	18.8	11	0.95
Four Corners Health Department	792	18.6	3	308	20.2	6	484	17.0	4	1.19
Lincoln-Lancaster County Health Department	4,023	18.4	2	1,708	20.0	4	2,315	16.6	2	1.21 [+]
Loup Basin Public Health Department	633	21.8	15	247	24.5	13	386	19.4	13	1.26
North Central District Health Department	923	22.5	16	355	26.5	16	568	18.8	12	1.41 [+]
Northeast Nebraska Public Health Department	736	24.8 [++]	18	314	27.5 [++]	18	422	22.0	18	1.25
Panhandle Public Health Department	1,606	19.9	9	678	22.7	12	928	17.1	5	1.33 [+]
Public Health Solutions	1,015	23.5 [++]	17	406	27.1 [++]	17	609	20.1	14	1.35 [+]
Sarpy/Cass Department of Health and Wellness	1,952	18.7	4	839	22.1	8	1,113	14.9 [--]	1	1.49 [+]
South Heartland District Health Department	820	19.6	6	329	20.9	7	491	18.4	8	1.13
Southeast District Health Department	727	20.3	11	285	20.1	5	442	20.5	15	0.98
Southwest Nebraska Public Health Department	607	19.8	8	234	22.7	11	373	17.5	6	1.30
Three Rivers Public Health Department	1,199	21.6	13	485	22.4	10	714	20.8	17	1.08
Two Rivers Public Health Department	1,451	20.7	12	560	24.8	14	891	16.9	3	1.47 [+]
West Central District Health Department	857	19.8	7	346	18.7	2	511	20.8	16	0.90

* Adults reported having obesity based on measures of weight in kilograms divided by height in meters squared ($kg\text{-}m^2$)
Respondents are classified as obese if BMI >= 30

** Includes all years 1995-2003

[a] Non-weighted sample size for each health department for 1995-2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

[+] The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

[++] The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

[--] The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 1525 cases missing for reporting height or weight, 5.4% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

No Leisure Time Physical Activity

According to the CDC, more than 60% of U.S. adults do not engage in the recommended amount of physical activity, while 25% are not active at all. Regular physical activity has numerous health benefits including decreased risk for heart disease and stroke. These benefits indicate:

- Physical activity is as important to the development of coronary heart disease (CHD) as controlling high blood pressure, controlling high blood cholesterol, and not smoking
- Physically inactive people are almost twice as likely to develop CHD as people who engage in regular physical activity
- Moderate to high levels of physical activity can reduce the risk of having a stroke (including total, ischemic, or hemorrhagic)
- Compared to low-active individuals, it is estimated that highly active individuals have a 25-64% lower risk of stroke incidence or mortality.[4]

Nebraska HP2010 Objective: 15% (#22-1)

Statewide Highlights and Trends up to 2003

- Between 1996 and 2001, no leisure time physical activity increased 37.1%, from 22.9% to 31.4% ($p < 0.05$ level) before declining dramatically in 2002 to 22.0%. This decline has continued in 2003 and was measured at 20.7%.
- In 2003, Nebraska adults ranked 14th lowest in no leisure time physical activity among 54 U.S. states and territories (interquartile range 20.7% to 27.2%).
- Compared to bordering states, Nebraska adults are more likely than adults in Colorado (16.8%) to engage in no leisure time physical activity, while being less likely than adults in Iowa (22.7%), Kansas (25.9%), and Missouri (24.0%) to engage in no leisure time physical activity ($p < 0.05$).

No Leisure Time Physical Activity among the State's Local Public Health Departments (1996 – 2003)

- The lowest percentage of reported no leisure time physical activity (21.2%), regardless of gender, occurs in the Four Corners Health Department.
- Three state local public health departments (North Central District, Loup Basin Public, and the Southeast District) stand out as having a significantly higher percentage (30.8%, 30.6%, and 33.0%, respectively) of physically inactive adults, when compared to the statewide percentage of 25.7%.
- Approximately 1 in every 5 males (19.8%) in Douglas County report they are not physically active outside of work. This percentage is significantly less then the statewide percentage for males. Furthermore, this percentage comes closest, out of any sub-grouping, to attaining the HP2010 objective of 15% of the population reporting physical inactivity.

No Leisure Time Physical Activity* Among Nebraska Adults by Nebraska Health Department and Gender, 1996-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***23,566***	***25.7***	***---***	***9,200***	***25.0***	***---***	***14,366***	***26.4***	***---***	*0.95* -
Central District Health Department	965	28.4	12	337	29.2	11	628	27.7	14	1.05
Douglas County Health Department	5,447	23.5 --	3	2,071	19.8 --	1	3,376	26.9	11	0.74 -
East Central District Health Department	756	25.4	5	282	26.5	6	474	24.6	4	1.08
Elkhorn Logan Valley Public Health Department	836	26.5	9	332	27.5	8	504	25.5	6	1.08
Four Corners Health Department	707	21.2 --	1	259	21.4	3	448	21.0 --	1	1.02
Lincoln-Lancaster County Health Department	3,661	23.7 --	4	1,512	21.7 --	4	2,149	25.8	7	0.84 -
Loup Basin Public Health Department	569	30.6 ++	16	216	33.3 ++	17	353	28.3	15	1.18
North Central District Health Department	823	30.8 ++	17	304	31.7 ++	15	519	30.1	17	1.05
Northeast Nebraska Public Health Department	655	29.8	15	276	32.9 ++	16	379	26.5	10	1.24
Panhandle Public Health Department	1,465	28.4	13	604	30.9 ++	14	861	26.0	9	1.19 +
Public Health Solutions	900	29.6 ++	14	355	29.8	12	545	29.4	16	1.01
Sarpy/Cass Department of Health and Wellness	1,729	22.9 --	2	715	20.1 --	2	1,014	25.8	8	0.78 -
South Heartland District Health Department	724	26.1	7	279	24.8	5	445	27.3	12	0.91
Southeast District Health Department	658	33.0 ++	18	246	35.0 ++	18	412	31.3	18	1.12
Southwest Nebraska Public Health Department	549	26.2	8	205	28.4	10	344	24.4	3	1.16
Three Rivers Public Health Department	1,066	27.7	11	418	30.4 ++	13	648	25.3	5	1.20
Two Rivers Public Health Department	1,299	25.7	6	487	28.0	9	812	23.7	2	1.18
West Central District Health Department	757	27.3	10	302	27.1	7	455	27.4	13	0.99

* Percentage of adults that, other than their regular job, did not participate in any physical activities or exercises during the 30 days preceding the survey

** Includes only years 1996, 1998-2003 (questions were not asked during other calendar years)

[a] Non-weighted sample size for each health department for years 1996, 1998-2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

\+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

\- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 231 cases missing for reporting lack of physical activity outside of work, 1.0% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Current Cigarette Smoking

The health consequences of cigarette smoking, including increased risk for heart disease and stroke, are serious. Nearly 1 in every 5 deaths per year in the United States, about 440,000 annual deaths, results from cigarette smoking. Cigarette smokers, compared to nonsmokers, are 2–4 times more likely to develop coronary heart disease (CHD). In addition, cigarette smoking approximately doubles a person's risk for stroke. Fortunately, if current smokers stop smoking their risk for CHD and stroke dramatically decrease.

According to Smoking-Attributable Mortality, Morbidity, and Economic Cost (SAMMEC) estimates, approximately 2,450 Nebraskans die from cigarette smoking each year. In 1999, CVD was the second most common cause of tobacco-related death (second to cancer), causing 1 in every 3 tobacco related deaths (32.8%). Of all CVD^{s} that contributed to smoking related mortality, ischemic heart disease claimed the largest proportion of CVD deaths, accounting for 50.0%. [4]

***Nebraska HP2010 Objective**:* 12% (#27-1a)

Statewide Highlights and Trends up to 2003

- More than 1 in every 5 Nebraska adults (21.2%), or an estimated 277,000 to 309,000 Nebraska adults, currently smokes cigarettes (daily or on some days).
- Between 1989 and 2003, the trend in current smoking among Nebraska adults has remained virtually unchanged at approximately 22%.
- In 2003, Nebraska adults ranked 20th lowest (tied with New Hampshire) for current smoking among 54 U.S. states and territories (interquartile range 20.1% to 25.2%).
- Compared to bordering states, Nebraska adults are more likely than adults in Colorado (18.6%) to currently smoke cigarettes, while less likely than adults in Missouri (27.2%) and Wyoming (24.6%) to currently smoke cigarettes ($p < 0.05$).

Cigarette smoking among the State's Local Public Health Departments (1995 – 2003)

- The percentage of current cigarette smokers in both Douglas County (24.3%) and the Three Rivers Public Health Department (25.3%) are significantly higher than the statewide percentage (21.9%).
- Two local public health departments (Loup Basin Public and Public Health Solutions) stand out as having a significantly lower percentage of current cigarette smokers. Furthermore, across the state, only females in the Loup Basin Public Health Department have attained the HP2010 objective of 12% of a population reporting a current cigarette smoking habit.
- Statewide, males are more likely to be current cigarette smokers. Furthermore, this pattern is consistent for all of Nebraska's local public health departments, and the pattern is statistically significant for 10 of the 18 health departments.

Current Cigarette Smoking* Among Nebraska Adults by Nebraska Health Department and Gender, 1995-2003**

Local Public Health Department	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	N[a]	W%[b]	Rank[c]	
Nebraska	***28,165***	***21.9***	***---***	***11,005***	***24.4***	***---***	***17,160***	***19.6***	***---***	*1.25* +
Central District Health Department	1,128	20.6	9	409	24.8	11	719	17.2	7	1.44 +
Douglas County Health Department	6,940	24.3 ++	17	2,651	26.6	17	4,289	22.1 ++	15	1.20 +
East Central District Health Department	896	19.2	5	344	22.9	8	552	15.9 --	5	1.44 +
Elkhorn Logan Valley Public Health Department	993	21.0	10	387	24.2	10	606	17.9	10	1.36 +
Four Corners Health Department	838	17.2 --	4	310	17.8 --	1	528	16.7	6	1.06
Lincoln-Lancaster County Health Department	4,254	23.0	15	1,751	25.9	15	2,503	20.2	14	1.28 +
Loup Basin Public Health Department	661	14.5 --	1	250	18.0 --	2	411	11.6 --	1	1.56 +
North Central District Health Department	964	17.0 --	3	359	18.5 --	3	605	15.8 --	4	1.17
Northeast Nebraska Public Health Department	777	20.3	8	318	22.2	6	459	18.4	12	1.21
Panhandle Public Health Department	1,684	23.6	16	691	24.9	12	993	22.3	17	1.12
Public Health Solutions	1,059	16.9 --	2	412	20.1	4	647	14.0 --	2	1.43 +
Sarpy/Cass Department of Health and Wellness	2,045	22.5	14	847	22.8	7	1,198	22.2	16	1.03
South Heartland District Health Department	848	19.5	6	334	21.1	5	514	17.9	11	1.18
Southeast District Health Department	767	21.4	12	288	25.4	13	479	17.8	8	1.43 +
Southwest Nebraska Public Health Department	638	19.8	7	239	25.5	14	399	15.0 --	3	1.69 +
Three Rivers Public Health Department	1,259	25.3 ++	18	493	26.9	18	766	23.7 ++	18	1.13
Two Rivers Public Health Department	1,518	21.7	13	570	26.2	16	948	17.8	9	1.47 +
West Central District Health Department	896	21.1	11	352	23.8	9	544	18.8	13	1.26

* Adults reported having smoked at least 100 cigarettes during their life and currently smoke either everyday or some days

** Includes all years 1995-2003

[a] Non-weighted sample size for each health department for 1995-2003

[b] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[c] Rank is lowest to highest

[d] Relative risk is the male to female rate ratio

\+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska local health departments

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska local health departments

Note: 155 cases missing for reporting current smoking status, 0.6% of the total responses.
Source: Nebraska Behavioral Risk Factor Surveillance System

Conclusions

While Nebraska compares well to the rest of the nation in certain aspects of cardiovascular health, these successes, in many cases, are limited to specific populations. Across the state, many subpopulations suffer from disproportionately high rates of death and display high levels of unhealthy behaviors related to CVD. Many of these disparities are occurring (geographically) within certain local public health departments in Nebraska. The large variability in CVD risk found across Nebraska's local public health departments suggests that efforts to improve the cardiovascular health of the state's residents would benefit from a regionally specific approach.

Each of Nebraska's local public health departments is unique. Differences such as population density, age distribution, education, and income contribute to the unique challenges and needs of local residents. As a result, it is important that each health department use all available data and resources to identify the specific needs of the residents in their regions. This information can lead to more evidence-based decisions regarding public health interventions, and in turn, result in better health outcomes.

The information presented in this report suggests the following key areas may be good starting points towards improving the cardiovascular health of Nebraska residents:

1. Development of action plans to improve cardiovascular health at the district and local levels; and

2. Improved collaboration between Nebraska's local and statewide public health experts.

We believe the information summarized in this report, if applied appropriately, can lead to an increased likelihood of receiving funding and resources for cardiovascular health. Furthermore, this information can help to build or improve partnerships between the local public health departments and community stakeholders. Increasing collaborative efforts between state and local health professionals will lead to improved cardiovascular health of residents in the local public health departments of Nebraska and help to eliminate disparities statewide.

Statewide and local health professionals now have access to a readily available source of information from which they can form strategies for improving the cardiovascular health of Nebraska's residents. Ideally, public health programs tailored to the specific needs of local residents coupled with statewide public heath efforts will produce tangible, yet significant, improvements in the cardiovascular health of Nebraska's residents.

We hope that public health officials working within Nebraska's local public health departments will familiarize themselves with the cardiovascular health trends within their region and in comparison to adjacent regions and the state. Furthermore, we encourage increased flow of information and cooperative efforts between neighboring health departments and statewide entities. We anticipate the local public health department specific summary sheets will be a valuable tool for local health professionals to increase awareness among key decision makers about the need for improved cardiovascular health.

Nebraska CVH Program Contacts

For more information on the Nebraska Cardiovascular Health Program, please visit: http://www.hhs.state.ne.us/cvh or contact any of the CVH Program staff:

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Appendices

Central District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Hall, Hamilton, and Merrick	36.7 years	H.S Grad / GED or higher	83.6%	White,non-Hispanic	62,003	87.2%
Total population	**Median income**					
71,141	$37,192	Baccalaureate / Graduate degree	16.2%	Minority	9,138	12.8%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Central District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,208	277.7	15.7	568	338.1	27.8	640	230.4	17.9	1.47 +
Heart Disease	890	205.7	13.5	436	258.9	24.3	454	163.5	15.0	1.58 +
Sudden Cardiac Death	442	101.0	9.4	228	136.6	17.7	214	73.9	9.9	1.85 +
Stroke	245	55.7	7.0	103	61.2	11.8	142	51.0	8.4	1.20

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Central District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	590	63.4	4.7	225	60.6	7.5	365	65.8	6.0	0.92
2	Diagnosed Diabetes	1,128	5.9	1.4	409	6.1	2.4	719	5.8	1.7	1.04
3	5-a-day Consumption	710	19.2	3.4	243	14.7	5.2	467	22.5	4.4	0.65 -
4	Diagnosed High Blood Cholesterol	435	24.3	4.5	159	23.7	7.3	276	24.9	5.7	0.95
5	Diagnosed High Blood Pressure	606	19.5	3.4	230	20.3	5.4	376	18.9	4.3	1.07
6	No Health Care Coverage, 18-64	840	14.8 ++	3.0	314	19.5 ++	5.5	526	10.8	2.9	1.81 +
7	Obese	1,068	20.2	2.8	404	22.2	4.5	664	18.5	3.3	1.20
8	No Leisure Time Physical Activity	965	28.4	3.4	337	29.2	5.9	628	27.7	4.0	1.05
9	Current Cigarette Smoking	1,128	20.6	2.7	409	24.8	4.7	719	17.2	3.1	1.44 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for each of the four CVD related causes of death in the Central District Health Department region are lower than those for all Nebraska residents. Consistent with adults in most Nebraska health districts, males, compared to females in the Central District region are less likely to consume five or more servings of fruits and vegetables daily, less likely to have health care coverage (among those 18-64), and more likely to smoke cigarettes. Positively, of the 18 local public health departments presented in this report, residents of the Central District region rank second lowest in diagnosed high blood cholesterol (among those that have ever had it checked) and diagnosed high blood pressure (although these differences are not significantly different from the state as a whole). However, in contrast, adults of the Central District region, aged 18-64 years, rank 14th highest (out of 18) in no health care coverage at 14.8%, which is significantly higher than the 11.7% for the entire state.

Douglas County Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Douglas	34.7 years	H.S Grad / GED or higher	87.3%	White,non-Hispanic	362,528	78.2%
Total population	**Median income**					
463,585	$43,209	Baccalaureate / Graduate degree	30.6%	Minority	101,057	21.8%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Douglas County Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	6,279	301.9	7.5	2,836	361.8	13.3	3,443	258.7	8.6	1.40 +
Heart Disease	4,482	215.2	6.3	2,164	272.9	11.5	2,318	174.5	7.1	1.56 +
Sudden Cardiac Death	2,246	107.3	4.4	1,048	132.4	8.0	1,198	88.4	5.0	1.50 +
Stroke	1,199	57.8	3.3	446	58.5	5.4	753	56.4	4.0	1.04

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Douglas County Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	4,002	67.7 ++	1.9	1,520	63.6	3.1	2,482	71.4 ++	2.3	0.89 -
2	Diagnosed Diabetes	6,948	5.2	0.6	2,657	5.4	0.9	4,291	5.1	0.8	1.07
3	5-a-day Consumption	3,994	17.9	1.5	1,523	13.3	2.2	2,471	22.1	2.0	0.60 -
4	Diagnosed High Blood Cholesterol	3,026	28.1	2.1	1,074	31.0	3.3	1,952	25.8	2.7	1.20 +
5	Diagnosed High Blood Pressure	4,130	20.9	1.5	1,572	20.1	2.3	2,558	21.6	1.9	0.93
6	No Health Care Coverage, 18-64	5,508	10.5 --	1.0	2,194	11.7	1.7	3,314	9.3 --	1.2	1.26 +
7	Obese	6,596	18.9	1.1	2,606	19.5 --	1.8	3,990	18.4	1.4	1.06
8	No Leisure Time Physical Activity	5,447	23.5 --	1.3	2,071	19.8 --	2.0	3,376	26.9	1.7	0.74 -
9	Current Cigarette Smoking	6,940	24.3 ++	1.3	2,651	26.6	2.0	4,289	22.1 ++	1.7	1.20 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for total cardiovascular disease, heart disease, and stroke in Douglas County are higher than those for the state as a whole. Consistent with adults in many Nebraska health districts, males, compared to females in Douglas County are less likely to consume five or more servings of fruits and vegetables daily, less likely to have health care coverage (among those 18-64), and more likely to smoke cigarettes. Of the 18 local public health departments presented in this report, adults in Douglas County (24.3%) have the second highest percentage of cigarette smokers, significantly higher than the 21.9% statewide. In contrast, compared to the rest of the state, a significantly greater percentage of adults in Douglas County have had a cholesterol screening in the past five years (67.7%), a significantly lower percentage report having no health care coverage (among those 18-64) (10.5%), and a significantly lower percentage report not engaging in leisure time physical activity (23.5%). Additionally, as compared to the statewide percentage (21.6%), fewer male adults in Douglas County are obese (19.5%).

East Central District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Boone, Colfax, Nance and Platte	36.8 years	H.S Grad / GED or higher	81.9%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	46,878	89.5%
52,400	$37,344	Baccalaureate / Graduate degree	15.1%	Minority	5,522	10.5%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in East Central District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	971	281.2	17.7	431	334.9	31.6	540	237.0	20.0	1.41 +
Heart Disease	640	187.0	14.5	291	225.5	25.9	349	152.3	16.0	1.48 +
Sudden Cardiac Death	326	95.3	10.3	148	115.2	18.6	178	76.1	11.2	1.51 +
Stroke	197	56.2	7.8	81	63.3	13.8	116	52.1	9.5	1.21

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females (p < 0.05)

Risk Factors for Cardiovascular Disease Among Adults in East Central District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	492	61.9	5.1	198	56.8	8.1	294	66.7	6.3	0.85 -
2	Diagnosed Diabetes	896	4.8	1.6	343	4.7	2.5	553	4.9	1.9	0.97
3	5-a-day Consumption	552	20.8	3.8	210	14.1	5.2	342	26.2	5.3	0.54 -
4	Diagnosed High Blood Cholesterol	371	22.2 --	4.8	140	23.6	7.9	231	21.1 --	5.8	1.11
5	Diagnosed High Blood Pressure	505	24.0	4.3	200	26.2	7.1	305	22.0	5.0	1.19
6	No Health Care Coverage, 18-64	657	8.7 --	2.4	261	9.0	3.7	396	8.4	3.0	1.08
7	Obese	848	21.7	3.4	337	25.3	5.8	511	18.4	3.7	1.37 +
8	No Leisure Time Physical Activity	756	25.4	3.6	282	26.5	5.7	474	24.6	4.5	1.08
9	Current Cigarette Smoking	896	19.2	3.0	344	22.9	5.0	552	15.9 --	3.5	1.44 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher (p < 0.05) than all other Nebraska HDs

-- The percentage is significantly lower (p < 0.05) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, the age-adjusted mortality rate for sudden cardiac death in the East Central District Health Department region is the second lowest (out of the 18 health departments presented in this report). Consistent with adults in many Nebraska health districts, males, compared to females in the East Central region are less likely to consume five or more servings of fruits and vegetables daily and more likely to smoke cigarettes. Furthermore, compared to adult females, adult males are more likely to be obese and less likely to have had a cholesterol screening in the past five years. Adults of the East Central region rank the lowest out of the 18 health department regions (at 22.2%) in having diagnosed high blood cholesterol (among those that have ever had it checked), which is significantly lower than the 28.9% for all Nebraska adults. Furthermore, the percentage of adults (aged 18-64 years) in the East Central region that report not having any health care coverage (8.7%) is significantly less then the statewide percentage (11.7%).

Elkhorn Logan Valley Public Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Burt, Cuming, Madison and Stanton	37.4 years	H.S Grad / GED or higher	82.5%	White,non-Hispanic	54,410	91.2%
Total population	**Median income**	Baccalaureate / Graduate degree	15.4%	Minority	5,265	8.8%
59,675	$35,678					

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Elkhorn Logan Valley Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,402	321.9	16.9	616	394.6	31.2	786	267.3	18.7	1.48 +
Heart Disease	1,055	245.7 ++	14.8	500	320.9	28.1	555	190.9	15.9	1.68 +
Sudden Cardiac Death	620	142.3 ++	11.2	287	184.3	21.3	333	111.3	12.0	1.66 +
Stroke	257	56.8	6.9	85	54.0	11.5	172	57.6	8.6	0.94

Source: Nebraska Vital Records

++ The age-adjusted rate is significantly higher ($p < 0.05$) than all other Nebraska Health Departments

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Elkhorn Logan Valley Public Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	542	60.0 --	4.9	209	55.3	7.7	333	64.4	6.1	0.86 -
2	Diagnosed Diabetes	998	4.2	1.3	389	2.9 --	1.7	609	5.4	1.9	0.55
3	5-a-day Consumption	605	21.0	3.8	236	13.6	5.1	369	28.6	5.4	0.48 -
4	Diagnosed High Blood Cholesterol	380	35.7 ++	5.4	135	34.2	8.8	245	36.9 ++	6.7	0.93
5	Diagnosed High Blood Pressure	561	22.1	3.8	220	18.7	5.5	341	25.3	5.1	0.74
6	No Health Care Coverage, 18-64	692	12.5	2.9	309	11.7	4.1	383	13.5	3.9	0.87
7	Obese	942	18.3	2.7	381	17.9	4.1	561	18.8	3.6	0.95
8	No Leisure Time Physical Activity	836	26.5	3.6	332	27.5	5.6	504	25.5	4.3	1.08
9	Current Cigarette Smoking	993	21.0	3.1	387	24.2	5.0	606	17.9	3.5	1.36 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for heart disease and sudden cardiac death in the Elkhorn Logan Valley Public Health Department region are statistically higher than those for all Nebraska residents, and the stroke related mortality rate is slightly higher than the statewide rate, although not statistically different. Consistent with adults in many Nebraska health districts, males, compared to females in the Elkhorn Logan Valley region are less likely to consume five or more servings of fruits and vegetables daily and more likely to smoke cigarettes. Of the 18 local public health departments presented in this report, residents of the Elkhorn Logan Valley region rank second highest in diagnosed high blood cholesterol (among those that have ever had it checked) and lowest for having had a cholesterol screening in the past five years, both of which are significantly different from percentages found for all Nebraska residents. In contrast, residents of the Elkhorn Logan Valley region rank lowest (out of 18) for obesity at 18.3%, which is slightly lower than, but not significantly different from the 19.8% for the entire state.

Four Corners Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Butler, Polk, Seward and York	38.4 years	H.S Grad / GED or higher	86.4%	White,non-Hispanic	44,229	97.2%
Total population	**Median income**					
45,500	$39,163	Baccalaureate / Graduate degree	17.7%	Minority	1,271	2.8%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Four Corners Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,043	298.1	18.1	502	374.8	32.8	541	242.9	20.5	1.54 +
Heart Disease	813	232.8	16.0	416	310.8	29.9	397	177.1	17.4	1.75 +
Sudden Cardiac Death	439	122.7	11.5	214	159.2	21.3	225	97.1	12.7	1.64 +
Stroke	158	44.7	7.0	61	45.1	11.3	97	44.5	8.9	1.01

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females (p < 0.05)

Risk Factors for Cardiovascular Disease Among Adults in Four Corners Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	448	64.4	5.3	171	63.8	8.4	277	65.0	6.8	0.98
2	Diagnosed Diabetes	841	4.0	1.4	312	2.9 --	1.9	529	4.9	1.9	0.58
3	5-a-day Consumption	515	23.6	6.2	186	21.3	11.5	329	25.8	5.5	0.83
4	Diagnosed High Blood Cholesterol	346	29.0	5.5	128	24.8	8.1	218	32.3	7.4	0.77
5	Diagnosed High Blood Pressure	465	22.1	4.0	175	14.8 --	5.1	290	28.1	5.8	0.53 -
6	No Health Care Coverage, 18-64	594	8.3 --	2.5	235	7.5 --	3.6	359	9.2	3.5	0.82
7	Obese	792	18.6	3.2	308	20.2	5.3	484	17.0	3.7	1.19
8	No Leisure Time Physical Activity	707	21.2 --	3.5	259	21.4	5.7	448	21.0 --	4.3	1.02
9	Current Cigarette Smoking	838	17.2 --	3.0	310	17.8 --	4.8	528	16.7	3.8	1.06

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher (p < 0.05) than all other Nebraska HDs

-- The percentage is significantly lower (p < 0.05) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, the age-adjusted mortality rates for heart disease and sudden cardiac death in the Four Corners Health Department region are higher than those for all Nebraska residents. In contrast, the mortality rate for stroke in the Four Corners region ranks lowest out of the 18 health departments presented in this report (although not significantly different from the state as a whole). Of the 18 local public health departments in this report, adults in the Four Corners region rank second highest (out of 18) for consuming five or more servings of fruits and vegetables daily and lowest for diagnosed diabetes (although these percentages are not significantly different from the state as a whole). However, in contrast, the percentage of adults that smoke cigarettes in the Four Corners region (17.2%) is significantly lower than the statewide percentage (21.9%) and a greater percentage of adults have health care coverage (among those 18-64 years old) and engage in leisure time physical activity as compared to the state overall.

Lincoln-Lancaster County Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Lancaster	34.3 years	H.S Grad / GED or higher	90.5%	White,non-Hispanic	222,067	88.7%
Total population	**Median income**					
250,291	$41,850	Baccalaureate / Graduate degree	32.6%	Minority	28,224	11.3%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Lincoln-Lancaster County Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	2,864	259.3 --	9.5	1,255	304.8 --	16.9	1,609	225.6	11.0	1.35 +
Heart Disease	2,016	182.6 --	8.0	934	224.6 --	14.4	1,082	151.3	9.0	1.48 +
Sudden Cardiac Death	1,132	101.6	5.9	504	121.8	10.6	628	85.1	6.7	1.43 +
Stroke	555	50.3	4.2	197	48.9	6.8	358	50.5	5.2	0.97

Source: Nebraska Vital Records

-- The age-adjusted rate is significantly lower ($p < 0.05$) than all other Nebraska Health Departments

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Lincoln-Lancaster County Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	2,297	64.8	2.5	959	61.6	3.8	1,338	68.1	3.3	0.90 -
2	Diagnosed Diabetes	4,257	4.3 --	0.7	1,754	4.8	1.1	2,503	3.8 --	0.8	1.28
3	5-a-day Consumption	2,634	21.0	2.7	1,080	17.7	4.8	1,554	24.5	2.5	0.72 -
4	Diagnosed High Blood Cholesterol	1,730	28.8	2.8	681	31.2	4.7	1,049	26.7	3.1	1.17 +
5	Diagnosed High Blood Pressure	2,359	18.8 --	1.8	981	19.5	2.8	1,378	18.1 --	2.2	1.08
6	No Health Care Coverage, 18-64	3,431	11.3	1.4	1,456	12.3	2.1	1,975	10.2	1.7	1.20
7	Obese	4,023	18.4	1.4	1,708	20.0	2.3	2,315	16.6	1.7	1.21 +
8	No Leisure Time Physical Activity	3,661	23.7 --	1.7	1,512	21.7 --	2.6	2,149	25.8	2.3	0.84 -
9	Current Cigarette Smoking	4,254	23.0	1.9	1,751	25.9	3.3	2,503	20.2	1.9	1.28 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates due to total cardiovascular disease and heart disease in Lancaster County are significantly lower than statewide rates for Nebraska, and rank lowest and second lowest respectively out of the 18 local public health departments presented in this report. Among adults in Lancaster county, females are more likely than males to have had a cholesterol screening in the past five years and to consume five or more servings of fruits and vegetables daily, while being less likely to have diagnosed high blood cholesterol (among those that have ever had it checked), to be obese, and to smoke cigarettes. In contrast, males are more likely than females to engage in leisure time physical activity. Compared to the state as a whole, a lower percentage of adults in Lancaster County have diagnosed diabetes and diagnosed high blood pressure, while a higher percentage engage in leisure time physical activity. In particular, adults in Lancaster County have the lowest percentage (out of 18) for diagnosed high blood pressure (18.8%), which is significantly lower than the 22.5% for all Nebraska adults.

Loup Basin Public Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Blaine, Custer, Garfield, Greely, Howard, Loup, Sherman, Valley and Wheeler	40.9 years	H.S Grad / GED or higher	86.0%	White,non-Hispanic	32,449	98.0%
Total population	**Median income**					
33,122	$29,966	Baccalaureate / Graduate degree	14.7%	Minority	673	2.0%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Loup Basin Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	904	298.2	19.4	395	341.3	33.7	509	264.7	23.0	1.29 +
Heart Disease	684	226.3	17.0	308	267.4	29.9	376	192.4	19.4	1.39 +
Sudden Cardiac Death	348	116.3	12.2	167	146.3	22.2	181	93.7	13.7	1.56 +
Stroke	169	54.2	8.2	66	55.7	13.4	103	54.4	10.5	1.02

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Loup Basin Public Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	352	61.6	6.2	142	57.8	9.7	210	65.4	7.7	0.88
2	Diagnosed Diabetes	661	5.9	1.7	249	5.4	2.6	412	6.3	2.3	0.86
3	5-a-day Consumption	437	18.4	4.4	161	11.1	5.2	276	24.0	6.4	0.46 -
4	Diagnosed High Blood Cholesterol	253	30.7	6.6	98	28.1	10.2	155	33.0	8.6	0.85
5	Diagnosed High Blood Pressure	359	24.3	5.0	144	20.7	7.5	215	27.9	6.6	0.74
6	No Health Care Coverage, 18-64	428	15.6	4.2	167	19.3	7.3	261	12.2	4.3	1.58 +
7	Obese	633	21.8	3.7	247	24.5	6.1	386	19.4	4.3	1.26
8	No Leisure Time Physical Activity	569	30.6 ++	4.6	216	33.3 ++	7.5	353	28.3	5.5	1.18
9	Current Cigarette Smoking	661	14.5 --	3.2	250	18.0 --	5.7	411	11.6 --	3.4	1.56 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for each of the four CVD related causes of death in the Loup Basin Public Health Department region are not statistically different than those for all Nebraska residents. Consistent with adults in many Nebraska health districts, males, compared to females in the Loup Basin region are less likely to consume five or more servings of fruits and vegetables daily, less likely to have health care coverage (among those 18-64), and more likely to smoke cigarettes. Of the 18 local public health departments presented in this report, adults in the Loup Basin region rank the lowest in smoking prevalence (14.5%), significantly lower the state's average (21.9%). However, the percentage of adults in the Loup Basin region (30.6%) that do not engage in any leisure time physical activity is significantly greater than the percentage for all Nebraska residents (25.7%), ranking 16th highest out of the 18 health department regions.

Northeast Nebraska Public Health Department

(Including residents covered by the Dakota County Health Department)

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Cedar, Dakota, Dixon, Thurston and Wayne	35.1 years	H.S Grad / GED or higher	79.6%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	42,537	79.9%
53,229	$35,544	Baccalaureate / Graduate degree	15.2%	Minority	10,692	20.1%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Northeast Nebraska Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,019	321.5	19.7	472	401.9	36.3	547	259.8	21.8	1.55 +
Heart Disease	764	244.5	17.3	374	316.7	32.1	390	187.6	18.6	1.69 +
Sudden Cardiac Death	363	113.9	11.7	161	136.6	21.1	202	91.5	12.6	1.49 +
Stroke	216	65.4	8.7	81	70.2	15.3	135	61.9	10.4	1.13

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Northeast Nebraska Public Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	418	61.8	5.6	172	58.9	8.4	246	64.8	7.5	0.91
2	Diagnosed Diabetes	779	7.9 ++	2.2	320	8.4 ++	3.1	459	7.4	3.1	1.13
3	5-a-day Consumption	482	18.7	4.1	196	11.5	4.8	286	25.7	6.3	0.45 -
4	Diagnosed High Blood Cholesterol	299	27.6	5.8	116	28.2	9.3	183	27.1	7.2	1.04
5	Diagnosed High Blood Pressure	434	25.6	4.8	178	22.2	7.2	256	29.0	6.3	0.76
6	No Health Care Coverage, 18-64	554	12.1	3.3	246	10.7	4.3	308	13.7	5.0	0.78
7	Obese	736	24.8 ++	3.6	314	27.5 ++	5.4	422	22.0	4.5	1.25
8	No Leisure Time Physical Activity	655	29.8	4.1	276	32.9 ++	6.3	379	26.5	5.1	1.24
9	Current Cigarette Smoking	777	20.3	3.3	318	22.2	5.1	459	18.4	4.2	1.21

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for total CVD, heart disease, and stroke in the Northeast Nebraska Public Health Department region rank second highest out of the 18 local health departments presented in this report (although not statistically different from the statewide rates). Consistent with adults in many Nebraska health departments, females, compared to males in the Northeast Nebraska region are more likely to consume five or more servings of fruits and vegetables daily, 25.7% and 11.5%, respectively. Adults in the Northeast Nebraska region rank highest (out of 18) in diagnosed diabetes at 7.9%, which is significantly higher than the state's average of 5.1%. Furthermore, adults in the Northeast Nebraska region rank highest (out of 18) in obesity at 24.8%, which is significantly higher than the 19.8% for all Nebraska residents.

North Central District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Antelope, Boyd, Brown, Cherry, Holt, KeyaPaha, Knox, Pierce and Rock	40.3 years	H.S Grad / GED or higher	84.2%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	49,306	96.5%
51,084	$29,509	Baccalaureate / Graduate degree	14.9%	Minority	1,778	3.5%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in North Central District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk (M:F)[d]
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	
Total Cardiovascular Disease	1,376	301.6	15.9	608	353.7	28.1	768	256.7	18.2	1.38 +
Heart Disease	1,054	231.4	14.0	480	278.9	25.0	574	193.1	15.8	1.44 +
Sudden Cardiac Death	543	117.2	9.9	247	144.4	18.0	296	94.1	10.7	1.53 +
Stroke	254	54.6	6.7	96	55.4	11.1	158	52.0	8.1	1.07

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in North Central District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk (M:F)[d]
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	
1	Current Cholesterol Screening	516	64.5	5.0	195	62.8	8.1	321	66.0	6.2	0.95
2	Diagnosed Diabetes	964	5.1	1.4	359	4.4	1.9	605	5.7	1.9	0.77
3	5-a-day Consumption	600	23.7 ++	3.9	218	22.4 ++	6.4	382	24.7	4.9	0.91
4	Diagnosed High Blood Cholesterol	384	32.0	5.6	143	35.5	9.5	241	29.1	6.5	1.22
5	Diagnosed High Blood Pressure	536	26.0	4.5	202	25.0	7.3	334	26.8	5.5	0.93
6	No Health Care Coverage, 18-64	630	19.4 ++	3.9	247	19.2 ++	6.3	383	19.6 ++	4.7	0.98
7	Obese	923	22.5	3.1	355	26.5	5.2	568	18.8	3.6	1.41 +
8	No Leisure Time Physical Activity	823	30.8 ++	3.7	304	31.7 ++	6.1	519	30.1	4.6	1.05
9	Current Cigarette Smoking	964	17.0 --	2.8	359	18.5 --	4.7	605	15.8 --	3.4	1.17

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for each of the four CVD related causes of death in the North Central District Health Department region are not statistically different than those for all Nebraska residents. Positively, of the 18 local public health departments in this report, adults in the North Central region rank highest (23.7%) for consuming five or more servings of fruits and vegetables daily and rank third lowest (17.0%) in current cigarette smoking. However, in contrast, compared to the rest of the state, a high percentage of adults in the North Central region, especially men, have diagnosed high blood cholesterol (among those that have ever had it checked) and report no participation in leisure time physical activity. Furthermore, adults in the North Central region, aged 18-64 years, rank highest (out of 18) in no health care coverage at 19.4% which is significantly higher than the 11.7% for the entire state, and approximately 19.6% of females have no health care coverage, 1.8 times higher then the statewide average of 10.9% for females.

Panhandle Public Health Department

(Including residents covered by the Scotts Bluff County Health Department)

Demographic Composition

Counties
Box Butte, Banner, Dawes, Cheyenne, Garden, Kimball, Duel, Morril, Sioux, Sheridan, Scotts Bluff

Average age
38.6 years

Total population
90,410

Median income
$32,553

Education

H.S Grad / GED or higher	83.4%
Baccalaureate / Graduate degree	17.6%

Race / Ethnicity

	Number	Percentage
White,non-Hispanic	78,280	86.6%
Minority	12,130	13.4%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Panhandle Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,988	305.2	13.4	936	383.3	24.6	1,052	247.3	14.9	1.55 +
Heart Disease	1,454	224.1	11.5	724	296.7	21.6	730	169.4	12.3	1.75 +
Sudden Cardiac Death	801	121.5	8.4	380	157.3	15.8	421	94.5	9.0	1.66 +
Stroke	351	52.9	5.5	133	54.7	9.3	218	53.1	7.0	1.03

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females (p < 0.05)

Risk Factors for Cardiovascular Disease Among Adults in Panhandle Public Health Department by Gender, 1995-2003

CVD Risk Factors	Total			Male			Female			Relative Risk
	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
[1] Current Cholesterol Screening	884	61.8	3.9	366	61.0	5.7	518	62.7 --	5.2	0.97
[2] Diagnosed Diabetes	1,683	6.1	1.3	690	6.6	2.0	993	5.6	1.6	1.17
[3] 5-a-day Consumption	1,062	19.7	2.6	438	11.9	3.2	624	27.1	4.0	0.44 -
[4] Diagnosed High Blood Cholesterol	633	30.2	4.1	258	30.5	6.3	375	29.9	5.3	1.02
[5] Diagnosed High Blood Pressure	909	25.3	3.2	378	23.4	4.6	531	27.2	4.5	0.86
[6] No Health Care Coverage, 18-64	1,161	18.4 ++	2.7	502	18.0 ++	3.8	659	18.8 ++	3.7	0.96
[7] Obese	1,606	19.9	2.3	678	22.7	3.5	928	17.1	2.8	1.33 +
[8] No Leisure Time Physical Activity	1,465	28.4	2.7	604	30.9 ++	4.2	861	26.0	3.4	1.19 +
[9] Current Cigarette Smoking	1,684	23.6	2.4	691	24.9	3.7	993	22.3	3.1	1.12

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher (p < 0.05) than all other Nebraska HDs

-- The percentage is significantly lower (p < 0.05) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

While the age-adjusted mortality rates for total cardiovascular disease, sudden cardiac death, and heart disease among residents of the Panhandle Public Health Department region appear slightly higher than the statewide rates, these differences are not significant. Consistent with adults in many Nebraska health districts, males, compared to females in the Panhandle region are less likely to consume five or more servings of fruits and vegetables daily. Additionally, males are also more likely, when compared to females, to be obese and report no participation in leisure time physical activity. Of the 18 local public health departments presented in this report, adults in the Panhandle region rank 15th lowest for having had a cholesterol screening during the past five years and rank the lowest in this category for females. Furthermore, residents of the Panhandle Public HD, aged 18-64 years, rank second highest (out of 18) in the percentage with no health care coverage at 18.4% which is significantly higher than the 11.7% for the entire state, and approximately 18.8% of females have no health care coverage, statistically greater then the statewide average of 10.9%.

Public Health Solutions

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Filmore, Gage, Jefferson, Saline and Thayer	40.3 years	H.S Grad / GED or higher	83.0%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	55,373	95.7%
57,858	$36,317	Baccalaureate / Graduate degree	15.0%	Minority	2,485	4.3%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Public Health Solutions by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,599	306.8	15.0	686	367.1	27.5	913	260.1	16.9	1.41 +
Heart Disease	1,204	232.3	13.1	533	286.6	24.3	671	189.8	14.4	1.51 +
Sudden Cardiac Death	685	128.5	9.6	290	155.7	17.9	395	107.0	10.6	1.46 +
Stroke	295	56.0	6.4	114	59.7	11.0	181	54.4	7.9	1.10

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Public Health Solutions by Gender, 1995-2003

CVD Risk Factors	Total			Male			Female			Relative Risk
	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
[1] Current Cholesterol Screening	556	69.1	4.5	221	67.8	7.1	335	70.1	5.7	0.97
[2] Diagnosed Diabetes	1,061	5.0	1.4	413	4.2	1.7	648	5.7	2.1	0.74
[3] 5-a-day Consumption	670	20.3	3.5	261	13.8	5.2	409	26.2	4.8	0.53 -
[4] Diagnosed High Blood Cholesterol	418	32.8	5.3	161	33.4	8.1	257	32.4	6.9	1.03
[5] Diagnosed High Blood Pressure	574	25.3	3.9	228	23.7	5.9	346	26.7	5.1	0.89
[6] No Health Care Coverage, 18-64	735	9.7	2.7	301	9.1	4.0	434	10.2	3.7	0.90
[7] Obese	1,015	23.5 ++	3.0	406	27.1 ++	4.9	609	20.1	3.5	1.35 +
[8] No Leisure Time Physical Activity	900	29.6 ++	3.4	355	29.8	5.4	545	29.4	4.2	1.01
[9] Current Cigarette Smoking	1,059	16.9 --	2.6	412	20.1	4.3	647	14.0 --	3.0	1.43 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for total cardiovascular disease, heart disease, and stroke in the Public Health Solutions Health Department region are higher than those for all Nebraska residents. Consistent with adults in many Nebraska health districts, males, compared to females in the Public Health Solutions region are less likely to consume five or more servings of fruits and vegetables daily and more likely to smoke cigarettes. Furthermore, adult males are more likely than adult females to be obese. Out of the 18 health departments presented in this report, adults within the Public Health Solutions region rank second lowest for current smoking (16.9%), which is significantly lower than the statewide percentage of 21.9%. However, in contrast, the percentage of obese adults in the Public Health Solutions region ranks second highest out of 18 (23.5%), and is significantly greater than the statewide percentage of 19.8%. In addition, the percentage of adults in the Public Health Solutions region that do not engage in any leisure time physical activity (29.6%) is significantly higher than the percentage of all Nebraska adults (25.7%).

Sarpy/Cass Department of Health and Wellness

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
					Number	Percentage
Cass and Sarpy	32.5 years	H.S Grad / GED or higher	92.6%	White,non-Hispanic	130,394	88.7%
Total population	**Median income**					
146,929	$52,534	Baccalaureate / Graduate degree	28.2%	Minority	16,535	11.3%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Sarpy/Cass Department of Health and Wellness by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,411	317.2	16.6	661	379.6	28.9	750	275.6	19.7	1.38 +
Heart Disease	1,049	233.0	14.1	522	289.7	24.9	527	193.9	16.6	1.49 +
Sudden Cardiac Death	556	124.4	10.3	274	151.5	17.9	282	103.8	12.1	1.46 +
Stroke	265	62.5	7.5	99	68.6	13.5	166	60.4	9.2	1.14

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Sarpy/Cass Department of Health and Wellness by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	1,113	66.5	3.4	451	64.6	5.2	662	68.3	4.4	0.95
2	Diagnosed Diabetes	2,048	4.5	1.0	850	4.7	1.5	1,198	4.4	1.2	1.07
3	5-a-day Consumption	1,278	16.6 --	2.4	534	13.5	3.5	744	19.9 --	3.2	0.68 -
4	Diagnosed High Blood Cholesterol	863	25.3 --	3.3	338	26.6	5.2	525	24.1	4.2	1.11
5	Diagnosed High Blood Pressure	1,142	19.9	2.6	458	19.9	4.1	684	19.9	3.3	1.00
6	No Health Care Coverage, 18-64	1,729	6.7 --	1.5	732	7.9 --	2.5	997	5.5 --	1.7	1.44 +
7	Obese	1,952	18.7	1.9	839	22.1	3.1	1,113	14.9 --	2.2	1.49 +
8	No Leisure Time Physical Activity	1,729	22.9 --	2.3	715	20.1 --	3.5	1,014	25.8	3.1	0.78 -
9	Current Cigarette Smoking	2,045	22.5	2.2	847	22.8	3.3	1,198	22.2	2.8	1.03

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for each of the four CVD related causes of death in the Sarpy/Cass Department of Health and Wellness are higher than those for all Nebraska residents, regardless of gender. Consistent with adults in many Nebraska health districts, males, compared to females in the Sarpy/Cass region are less likely to consume five or more servings of fruits and vegetables daily and less likely to have health care coverage (among those 18-64). Positively, of the 18 local public health departments presented in this report, adults aged 18-64 years of the Sarpy/Cass region rank lowest in no health care coverage (6.7% compared to 11.7% statewide). In addition, the percentage of adults in the Sarpy/Cass region that have diagnosed high blood cholesterol (among those that have ever had it checked), 25.3%, is significantly less than the statewide percentage (28.9%). In contrast, a significantly lower percentage of adults (22.9%) reported not engaging in leisure time physical activity compared to the state as a whole (25.7%).

South Heartland District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Adams, Clay, Nuckolls and Webster	38.9 years	H.S Grad / GED or higher	85.9%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	44,411	93.9%
47,308	$35,898	Baccalaureate / Graduate degree	18.0%	Minority	2,897	6.1%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in South Heartland District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,118	305.4	17.9	509	379.7	33.0	609	250.6	19.9	1.52 +
Heart Disease	860	235.9	15.8	401	299.3	29.3	459	188.1	17.2	1.59 +
Sudden Cardiac Death	451	122.6	11.3	204	153.0	21.0	247	96.8	12.1	1.58 +
Stroke	198	52.7	7.3	77	57.1	12.8	121	49.4	8.8	1.16

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in South Heartland District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	453	67.2	5.2	179	64.1	8.0	274	70.1	6.8	0.91
2	Diagnosed Diabetes	850	4.8	1.6	333	4.9	2.5	517	4.7	2.0	1.05
3	5-a-day Consumption	534	15.9	3.6	212	9.0 --	4.2	322	22.5	5.4	0.40 -
4	Diagnosed High Blood Cholesterol	342	24.8	5.3	128	24.1	8.3	214	25.5	6.6	0.94
5	Diagnosed High Blood Pressure	466	26.3	4.5	183	24.3	6.9	283	28.3	5.8	0.86
6	No Health Care Coverage, 18-64	589	14.3	3.4	245	14.5	5.3	344	14.1	4.2	1.03
7	Obese	820	19.6	3.1	329	20.9	4.9	491	18.4	3.8	1.13
8	No Leisure Time Physical Activity	724	26.1	4.0	279	24.8	6.7	445	27.3	4.7	0.91
9	Current Cigarette Smoking	848	19.5	3.1	334	21.1	4.9	514	17.9	3.7	1.18

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for total cardiovascular disease, heart disease, and sudden cardiac death in the South Heartland District Health Department region are higher than those for all Nebraska residents. Consistent with adults in many Nebraska health districts, females (22.5%) are more likely than males (9.0%) in the South Heartland region to consume five or more servings of fruits and vegetables daily. Furthermore, adults in the South Heartland region rank lowest (out of 18) in the percentage that consume five or more servings of fruits and vegetables daily (at 15.9%), which is lower, but not significantly different from than the statewide average of 19.3%. However, the percentage of males in the South Heartland region (9.0%) that consume five or more fruit and vegetable servings daily is significantly less than the statewide percentage (14.6%).

Southeast District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Johnson, Nemaha, Otoe, Pawnee and Richardson	40.5 years	H.S Grad / GED or higher	83.9%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	38,451	95.9%
40,078	$33,554	Baccalaureate / Graduate degree	17.2%	Minority	1,627	4.1%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Southeast District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	964	276.4	17.4	419	330.3	31.6	545	240.3	20.2	1.37 +
Heart Disease	670	196.5	14.9	304	240.7	27.1	366	166.5	17.1	1.45 +
Sudden Cardiac Death	339	98.5	10.5	154	123.8	19.6	185	79.4	11.4	1.56 +
Stroke	212	58.2	7.8	82	63.6	13.8	130	55.8	9.6	1.14

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females (p < 0.05)

Risk Factors for Cardiovascular Disease Among Adults in Southeast District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	415	68.8	5.5	167	64.5	8.8	248	73.4	6.2	0.88
2	Diagnosed Diabetes	771	6.3	1.8	290	6.3	2.9	481	6.4	2.4	0.99
3	5-a-day Consumption	461	21.2	4.3	167	11.4	5.2	294	29.1	6.1	0.39 -
4	Diagnosed High Blood Cholesterol	335	37.1 ++	6.1	126	33.5	9.8	209	40.3 ++	7.5	0.83
5	Diagnosed High Blood Pressure	441	33.8 ++	5.4	173	30.7 ++	8.7	268	36.9 ++	6.4	0.83
6	No Health Care Coverage, 18-64	473	10.8	3.3	195	11.1	4.9	278	10.6	4.2	1.04
7	Obese	727	20.3	3.3	285	20.1	5.1	442	20.5	4.2	0.98
8	No Leisure Time Physical Activity	658	33.0 ++	4.3	246	35.0 ++	7.1	412	31.3	5.0	1.12
9	Current Cigarette Smoking	767	21.4	3.4	288	25.4	5.6	479	17.8	3.9	1.43 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher (p < 0.05) than all other Nebraska HDs

-- The percentage is significantly lower (p < 0.05) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for total cardiovascular disease, heart disease, and sudden cardiac death in the Southeast District Health Department region are lower than those for all Nebraska residents. Consistent with adults in many Nebraska health districts, males, compared to females in the Southeast region are less likely to consume five or more servings of fruits and vegetables daily and more likely to smoke cigarettes. Of the 18 local public health departments presented in this report, residents of the Southeast region rank highest for diagnosed high blood cholesterol (among those that have ever had it checked), diagnosed high blood pressure, and the percentage reporting no leisure time physical activity (overall and among both genders). Additionally, the residents of the Southeast region rank second highest in diagnosed diabetes at 6.3%, slightly higher, but not significantly different from than the statewide average of 5.1%.

Southwest Nebraska Public Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Chase, Dundee, Frontier, Furnas, Hayes, Hitchcock, Perkins and Red Willow	40.7 years	H.S Grad / GED or higher	86.5%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	32,475	96.6%
33,610	$31,999	Baccalaureate / Graduate degree	15.9%	Minority	1,135	3.4%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Southwest Nebraska Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	839	287.4	19.4	394	363.7	35.9	445	228.2	21.2	1.59 +
Heart Disease	595	205.2	16.5	293	271.6	31.1	302	153.5	17.3	1.77 +
Sudden Cardiac Death	298	102.3	11.6	157	146.4	22.9	141	68.3	11.3	2.14 +
Stroke	176	60.1	8.9	73	66.6	15.3	103	54.6	10.5	1.22

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Southwest Nebraska Public Health Department by Gender, 1995-2003

CVD Risk Factors	Total			Male			Female			Relative Risk
	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
[1] Current Cholesterol Screening	355	60.7	6.3	136	56.6	10.2	219	64.3	7.7	0.88
[2] Diagnosed Diabetes	638	5.9	1.9	239	7.1	3.4	399	4.9	2.1	1.44
[3] 5-a-day Consumption	400	17.1	4.1	150	8.3 --	4.6	250	23.9	6.1	0.35 -
[4] Diagnosed High Blood Cholesterol	247	28.2	6.3	89	22.9	9.8	158	32.5	8.0	0.70
[5] Diagnosed High Blood Pressure	364	24.4	4.9	139	23.0	7.8	225	25.7	6.1	0.89
[6] No Health Care Coverage, 18-64	438	17.8 ++	4.6	171	19.4	7.9	267	16.4 ++	5.1	1.18
[7] Obese	607	19.8	3.5	234	22.7	5.9	373	17.5	4.3	1.30
[8] No Leisure Time Physical Activity	549	26.2	4.3	205	28.4	7.1	344	24.4	5.2	1.16
[9] Current Cigarette Smoking	638	19.8	3.7	239	25.5	6.5	399	15.0 --	4.1	1.69 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for total cardiovascular disease, heart disease, and sudden cardiac death in the Southwest District HD region are slightly lower than those for all Nebraska residents. Consistent with adults in many Nebraska health districts, males, compared to females in the Southwest region are less likely to consume five or more servings of fruits and vegetables daily and more likely to smoke cigarettes. The percentage of adults (between the ages of 18-64) in the Southwest region that do not have any health care coverage (17.8%) is significantly greater than the statewide percentage (11.7%), ranking 16th highest out of the 18 health departments presented in this report. Furthermore, adult males in the Southwest region rank lowest (at 8.3%), out of 18, in consuming five or more servings of fruits and vegetables daily, a significantly lower percentage than for adult males statewide (14.6%). Adults in the Southwest region rank low in the percentage that have had a blood cholesterol screening in the past five years, but not significantly different from the state as a whole (60.7% and 65.4% respectively).

Three Rivers Public Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Dodge, Saunders and Washington	37.8 years	H.S Grad / GED or higher	85.9%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	71,833	96.1%
74,770	$41,303	Baccalaureate / Graduate degree	17.4%	Minority	2,937	3.9%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Three Rivers Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,285	250.9 --	13.7	543	306.2	25.8	742	213.5	15.4	1.43 +
Heart Disease	834	163.7 --	11.1	377	212.3 --	21.4	457	133.4 --	12.2	1.59 +
Sudden Cardiac Death	405	77.1 --	7.5	167	94.1 --	14.3	238	63.9 --	8.1	1.47 +
Stroke	336	65.5	7.0	125	70.5	12.4	211	60.0	8.1	1.18

Source: Nebraska Vital Records

-- The rate is significantly lower ($p < 0.05$) than all other Nebraska Health Departments

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Three Rivers Public Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	689	69.9	4.8	261	61.2	8.1	428	77.8 ++	4.7	0.79 -
2	Diagnosed Diabetes	1,261	5.2	1.4	494	5.1	2.3	767	5.3	1.6	0.97
3	5-a-day Consumption	782	17.3	3.0	323	14.0	4.4	459	20.5	4.1	0.69 -
4	Diagnosed High Blood Cholesterol	546	31.8	4.4	194	32.8	7.3	352	31.0	5.5	1.06
5	Diagnosed High Blood Pressure	723	23.0	3.5	272	23.8	5.8	451	22.3	4.3	1.07
6	No Health Care Coverage, 18-64	904	10.3	2.3	377	9.8	3.5	527	10.8	3.0	0.91
7	Obese	1,199	21.6	2.7	485	22.4	4.2	714	20.8	3.5	1.08
8	No Leisure Time Physical Activity	1,066	27.7	3.1	418	30.4 ++	5.0	648	25.3	3.7	1.20
9	Current Cigarette Smoking	1,259	25.3 ++	2.9	493	26.9	4.5	766	23.7 ++	3.6	1.13

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for total cardiovascular disease, heart disease, and sudden cardiac death in the Three Rivers Public Health Department region are significantly lower than those for all Nebraska residents. However, residents of the Three Rivers region rank highest in stroke mortality (although not significantly different from the state as a whole). Consistent with adults in many Nebraska health districts, males, compared to females in the Three Rivers region are less likely to consume five or more servings of fruits and vegetables daily. Positively, of the 18 local public health departments presented in this report, adult females in the Three Rivers region rank highest (at 77.8%) in having had a cholesterol screening during the past five years, which is significantly higher than the statewide rate for females (68.5%). However, in contrast, residents of Three Rivers Public region rank highest (out of 18) in current cigarette smoking (at 25.3%), statistically greater than the state average of 21.9% (a pattern that is consistent for both genders).

Two Rivers Public Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Buffalo, Dawson, Franklin, Harlan, Gosper, Kearney and Phelps	36.2 years	H.S Grad / GED or higher	84.6%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	82,493	88.9%
92,756	$36,416	Baccalaureate / Graduate degree	22.5%	Minority	10,263	11.1%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in Two Rivers Public Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	1,742	297.0	13.9	791	357.8	24.9	951	246.6	15.7	1.45 +
Heart Disease	1,230	211.3	11.8	587	265.5	21.5	643	168.1	13.0	1.58 +
Sudden Cardiac Death	651	109.9	8.4	295	133.3	15.2	356	89.8	9.3	1.48 +
Stroke	349	58.4	6.1	128	58.1	10.1	221	56.8	7.5	1.02

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females ($p < 0.05$)

Risk Factors for Cardiovascular Disease Among Adults in Two Rivers Public Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	842	63.5	4.0	317	61.9	6.4	525	65.0	5.0	0.95
2	Diagnosed Diabetes	1,517	4.1	1.1	569	4.6	1.8	948	3.6 --	1.3	1.25
3	5-a-day Consumption	928	19.7	3.1	350	16.9	4.5	578	22.0	4.2	0.77
4	Diagnosed High Blood Cholesterol	627	28.6	4.3	224	28.5	7.2	403	28.6	4.9	1.00
5	Diagnosed High Blood Pressure	875	24.9	3.5	328	26.1	5.7	547	23.9	4.0	1.09
6	No Health Care Coverage, 18-64	1,104	11.6	2.4	424	12.7	3.6	680	10.7	3.1	1.19
7	Obese	1,451	20.7	2.5	560	24.8	4.3	891	16.9	2.8	1.47 +
8	No Leisure Time Physical Activity	1,299	25.7	2.9	487	28.0	4.5	812	23.7	3.8	1.18
9	Current Cigarette Smoking	1,518	21.7	2.6	570	26.2	4.2	948	17.8	3.1	1.47 +

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher ($p < 0.05$) than all other Nebraska HDs

-- The percentage is significantly lower ($p < 0.05$) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Age-adjusted mortality rates for each of the four causes of death in the Two Rivers Public Health Department region are similar to those for all Nebraska residents. Consistent with adults in many Nebraska health districts, males, compared to females in the Two Rivers region are more likely to be obese and more likely to smoke cigarettes. Positively, adult females in the Two Rivers region rank lowest in the percentage with diagnosed diabetes (at 3.6%), which is significantly lower then the statewide percentage for adult females at 5.0%.

West Central District Health Department

Demographic Composition

Counties	Average age	Education		Race / Ethnicity		
Arthur, Grant, Hooker, Keith, Lincoln, Logan, McPherson, and Thomas	38.3 years	H.S Grad / GED or higher	86.6%		Number	Percentage
Total population	**Median income**			White,non-Hispanic	44,377	93.4%
47,517	$35,221	Baccalaureate / Graduate degree	16.4%	Minority	3,140	6.6%

Source: 2000 Census

Mortality and Risk Factors

Mortality Due to Cardiovascular Disease Among Residents in West Central District Health Department by Gender, 1999-2003

Cause of Death [%]	Total			Male			Female			Relative Risk
	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	N[a]	AAR[b]	me[c]	(M:F)[d]
Total Cardiovascular Disease	959	305.9	19.4	435	359.4	33.8	524	262.1	22.4	1.37 +
Heart Disease	724	231.7	16.9	332	274.3	29.5	392	195.6	19.4	1.40 +
Sudden Cardiac Death	406	129.1	12.6	190	156.7	22.3	216	102.8	13.7	1.52 +
Stroke	151	48.0	7.7	67	55.6	13.3	84	43.2	9.2	1.29

Source: Nebraska Vital Records

+ The age-adjusted rate for males is significantly higher than the rate for females (p < 0.05)

Risk Factors for Cardiovascular Disease Among Adults in West Central District Health Department by Gender, 1995-2003

	CVD Risk Factors	Total			Male			Female			Relative Risk
		n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	n[e]	W%[f]	me[c]	(M:F)[d]
1	Current Cholesterol Screening	464	67.5	4.8	181	67.0	7.6	283	67.9	6.2	0.99
2	Diagnosed Diabetes	895	5.7	1.7	352	6.8	2.7	543	4.7	1.9	1.46
3	5-a-day Consumption	559	18.9	3.9	229	17.3	5.8	330	20.5	5.1	0.84
4	Diagnosed High Blood Cholesterol	342	31.5	5.7	128	32.3	9.0	214	30.8	7.4	1.05
5	Diagnosed High Blood Pressure	485	26.1	4.7	186	26.7	7.1	299	25.6	6.3	1.04
6	No Health Care Coverage, 18-64	641	14.3	3.3	257	15.6	5.5	384	13.2	3.8	1.18
7	Obese	857	19.8	3.0	346	18.7	4.5	511	20.8	3.9	0.90
8	No Leisure Time Physical Activity	757	27.3	3.8	302	27.1	5.8	455	27.4	4.9	0.99
9	Current Cigarette Smoking	896	21.1	3.1	352	23.8	5.0	544	18.8	3.7	1.26

Source: Nebraska Behavioral Risk Factor Surveillance System

++ The percentage is significantly higher (p < 0.05) than all other Nebraska HDs

-- The percentage is significantly lower (p < 0.05) than all other Nebraska HDs

+ The lower bound of the 95% confidence interval for the risk ratio is greater than 1.0

- The upper bound of the 95% confidence interval for the risk ratio is less than 1.0

[%] Specific ICD-10 Cause of Death Codes may be found in the Methodology Section of this Report

[a] Documented number of deaths from each cause between 1999 and 2003

[b] Average annual age-adjusted rate per 100,000 population (2000 U.S. standard population)

[c] Margin of error (me) at 95% confidence, interpreted as plus/minus the relevant age-adjusted rate or weighted percentage

[d] Relative Risk is the male to female rate ratio (for mortality) and percentage ratio (for risk factors)

[e] Non-weighted sample size for each risk factor

[f] Percentage weighted by gender and age to reflect Nebraska's population (using CDC's BRFSS weighting methodology)

[1] Percentage of adults reporting that they had their cholesterol checked within the 5 years preceding the survey

[2] Percentage of adults reporting that they have ever been told by a doctor, nurse, or health professional that they have diabetes (excluding gestational diabetes)

[3] Percentage of adults reporting that they consume 5 or more daily servings of fruits and vegetables

[4] Percentage of adults reporting that they have ever been told by a doctor , nurse, or health professional that their blood cholesterol is high, among those that have ever had it checked

[5] Percentage of adults reporting that they have ever been told by a doctor, nurse, or other health professional that their blood pressure is high

[6] Percentage of adults, 18-64, reporting that they do not have any kind of health care coverage, including health insurance, prepaid plans such as HMO, or governmental plans

[7] Percentage of adults body mass index value of 30 or greater (based on self-reported height and weight)

[8] Percentage of adults reporting that, other than their regular job, they did not participate in any physical activities or exercises during the 30 days preceding the survey

[9] Percentage of adults that have smoked at least 100 cigarettes during their lifetime and currently smoke cigarettes every day or on some days

Relative to the state in general

Although not statistically significant, age-adjusted mortality rates for total cardiovascular disease, heart disease, and sudden cardiac death in the West Central District Health Department region are higher than those for all Nebraska residents. In contrast, the stroke mortality rate in the West Central region ranks second lowest when comparing the 18 Nebraska local public health departments (although not significantly different from the state as a whole). In general, adults of the West Central region, when compared to adults statewide, do not differ statistically for any of the nine risk factors presented in the report. Of the 18 local public health departments, residents of the West Central region rank second highest in diagnosed high blood pressure while diagnosed high blood cholesterol (among those that have ever had it checked) is slightly higher than the statewide average (although neither difference is significant).

Local Public Health Department Contact Sheet

COUNTY HEALTH DEPARTMENTS

Butler County Health Department *(within the Four Corners District HD)*
372 South 9th Street
David City, NE 68632
Phone: (402) 367-3115
Fax: (402) 367-4107

Clay County Health Department (*within the South Heartland HD)*
209 West Fairfield
Clay Center, NE 68933
Phone: (402) 762-3571
Fax: (402) 762-3573

Dakota County Health Department
Courthouse West Annex
105 North 17th/Box 155
Dakota City, NE 68731
Phone: (402) 987-2164
Fax: (402) 987-2163

Douglas County Health Department
1819 Farnam Street/Room 401
Omaha, NE 68183
Phone: (402) 444-7471
Fax: (402) 444-6267

Polk County Health Department *(within the Four Corners HD)*
330 North State Street
Box 428
Osceola, NE 68651
Phone: (402) 747-2211
Fax: (402) 747-1427

Red Willow County Health Department *(within the Southwest Nebraska Public HD)*
Fairgrounds/AG Complex
1400 West 5th
McCook, NE 69001
Phone: (308) 345-1790
Fax: (308) 345-1794
Email: rwchealth@qwest.net

Scotts Bluff County Health Department
1825 10th Street
Gering, NE 69341-2445
Phone: (308) 436-6636
Fax: (308) 436-6638
Web site: www.scottsbluffcounty.org\health.htm

CITY-COUNTY HEALTH DEPARTMENT

Lincoln-Lancaster County Health Department
3140 "N" Street
Lincoln, NE 68510
Phone: (402) 441-8000
Fax: (402) 441-8323
Web site: http://interlinc.ci.lincoln.ne.us/city/health/index.htm

DISTRICT HEALTH DEPARTMENTS

Central District Health Department
Counties: (Hall, Hamilton, and Merrick)
1137 South Locust Street
Grand Island, NE 68801
Phone: (308) 385-5175 x178
Fax: (308) 385-5181

East Central District Health Department
Counties: (Boone, Colfax, Nance, and Platte)
2282 East 32nd Avenue
Columbus, NE 68601
Phone: (402) 563-9224 x 210
Fax: (402) 564-0611
Web site: www.eastcentraldistricthealth.com

Elkhorn Logan Valley Public Health Department
Counties: (Burt, Cuming, Madison, and Stanton)
922 Avenue "E"/Box 779
Wisner, NE 68791
Phone: (402) 529-2233
Fax: (402) 529-2211

Four Corners Health Department
Counties: (Butler, Polk, Seward, and York)
2325 North Nebraska Avenue
York, NE 68467
Phone: (402) 362-2621
Fax: (402) 362-2687
Email: fourcornershealth@alltel.net

Loup Basin Public Health Department
Counties:
(Blaine, Custer, Garfield, Greeley, Howard, Loup, Sherman, Valley, and Wheeler)
295 North 8th/Box 995
Burwell, NE 68823
Phone: (308) 346-5795
Fax: (308) 346-9106

North Central District Health Department
Counties: (Antelope, Boyd, Brown, Cherry, Holt, Keya Paha, Knox, Pierce, and Rock)
316 East Douglas Street
O'Neill, NE 68763
Phone: (402) 336-2406; Toll Free: (877) 336-2406
Fax: (402) 336-1768
Email: roger@ncdhd.info
Web site: www.ncdhd.info

Northeast Nebraska Public Health Department
Counties: (Cedar, Dixon, Thurston, and Wayne)
117 West 3rd Street
Wayne, NE 68787
Phone: (402) 375-2200
Fax: (402) 375-2201

Panhandle Public Health Department
Counties:
(Banner, Box Butte, Cheyenne, Dawes, Deuel,
Garden, Kimball, Morrill, Sheridan, and Sioux)
808 Box Butte Avenue
Box 337
Hemingford, NE 69348
Phone: (308) 487-3600
Fax: (308) 487-3682

Public Health Solutions
Counties: (Fillmore, Gage, Jefferson, Saline, and Thayer)
975 East Highway 33
Suite 1
Crete, NE 68333
Phone: (402) 826-3880; Toll Free: (888) 310-0565
Fax: (402) 826-4101

Sarpy/Cass Department of Health and Wellness
Counties: (Cass and Sarpy)
Suite 300/1308 Gold Coast Road
Papillion, NE 68046-3019
Phone: (402) 593-4121
Fax: (402) 593-5947
Web site: www.sarpy.com

South Heartland District Health Department
Counties: (Adams, Clay, Nuckolls, and Webster)
914 West 4th Street
Hastings, NE 68901
Phone: (402) 462-6211; Toll Free: (877) 238-7595
Fax: (402) 462-6219
Web site: southheartlandhealth.org

Southeast District Health Department
Counties: (Johnson, Nemaha, Otoe, Pawnee, and Richardson)
601 "J" Street
Auburn, NE 68305
Phone: (402) 274-3993; Toll Free: (877) 777-0424
Fax: (402) 274-3967

Southwest Nebraska Public Health Department
Counties:
(Chase, Dundy, Frontier, Furnas, Hayes, Hitchcock, Perkins, and Red Willow)
229 East "D" Street/Box 489
Trenton, NE 69044
Phone: (308) 334-5949
Fax: (308) 334-5951
Email: swhealthdep@gpcom.net

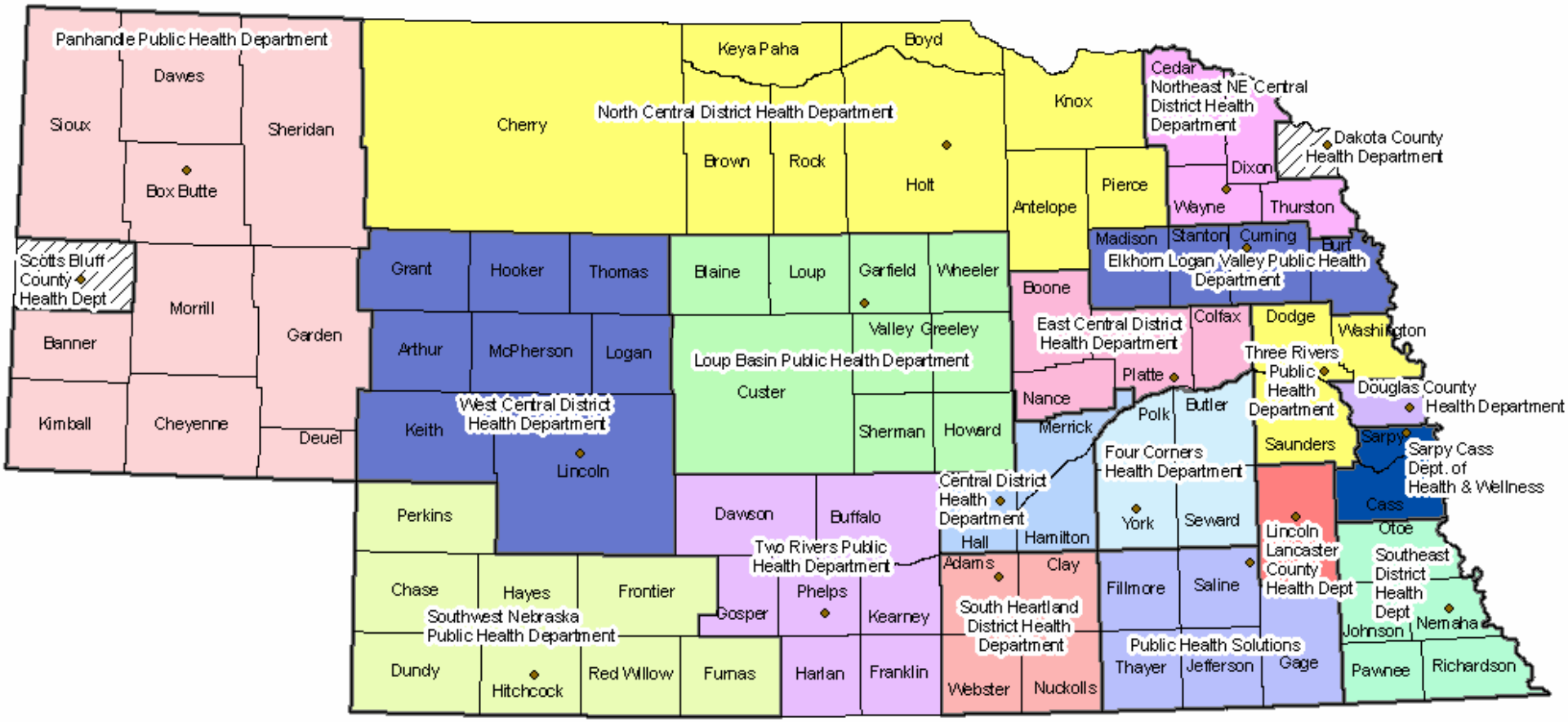
Three Rivers Public Health Department
Counties: (Dodge, Saunders, and Washington)
33 West 4th Street
Fremont, NE 68025
Phone: (402) 727-5396; Toll Free: (866) 727-5396
Fax: (402) 727-5399
Web site: www.threeriverspublichealth.org

Two Rivers Public Health Department
Counties: (Buffalo, Dawson, Franklin, Gosper, Harlan, Kearney, and Phelps)
701 4th Avenue/Suite 7
Holdrege, NE 68949
Phone: (308) 995-4778; Toll Free: (888) 669-7154
Fax: (308) 995-4073
Web site: www.2riverspublichealth.net

West Central District Health Department
Counties: (Arthur, Grant, Hooker, Keith, Lincoln, Logan, McPherson, and Thomas)
1831 West "A" Street
North Platte, NE 69101
Phone: (308) 696-1201
Fax: (308) 696-1204

Nebraska Local Public Health Departments

Last Updated: October 2004



Color-coded areas represent Local Public Health Departments eligible under the Nebraska Health Care Funding Act

Counties covered by Local Health Departments but do not qualify for LB 692 funding

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